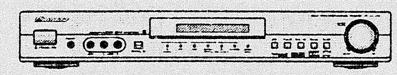
Pioneer sound.vision.soul

Service Manual


VSX-C100-S

ORDER NO.
RRV2605

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-C100-S
VSX-C100-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
VSX-C100-S	MYXU	AC220-230V	
VSX-C100-K	MYXU	AC220-230V	
VSX-C100-S	NVXU	AC240V	

For details, refer to "Important symbols for good services" .

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
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SAFTY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ▭ (fast operating fuse) and/or ▭ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ▭ (fusible de type rapide) et/ou ▭ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

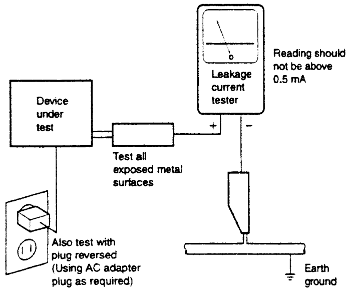
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Device under test
Test all exposed metal surfaces
Leakage current tester
Reading should not be above 0.5 mA
+
-
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety
You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments
To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning
For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

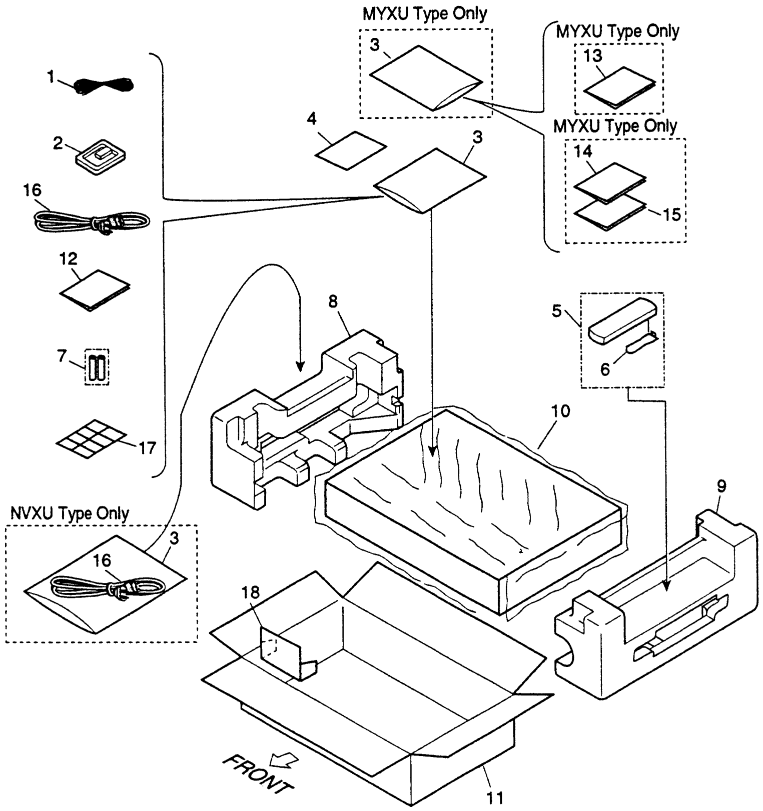
4. Shipping mode and shipping screws
To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts
Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



(1)PACKING parts List

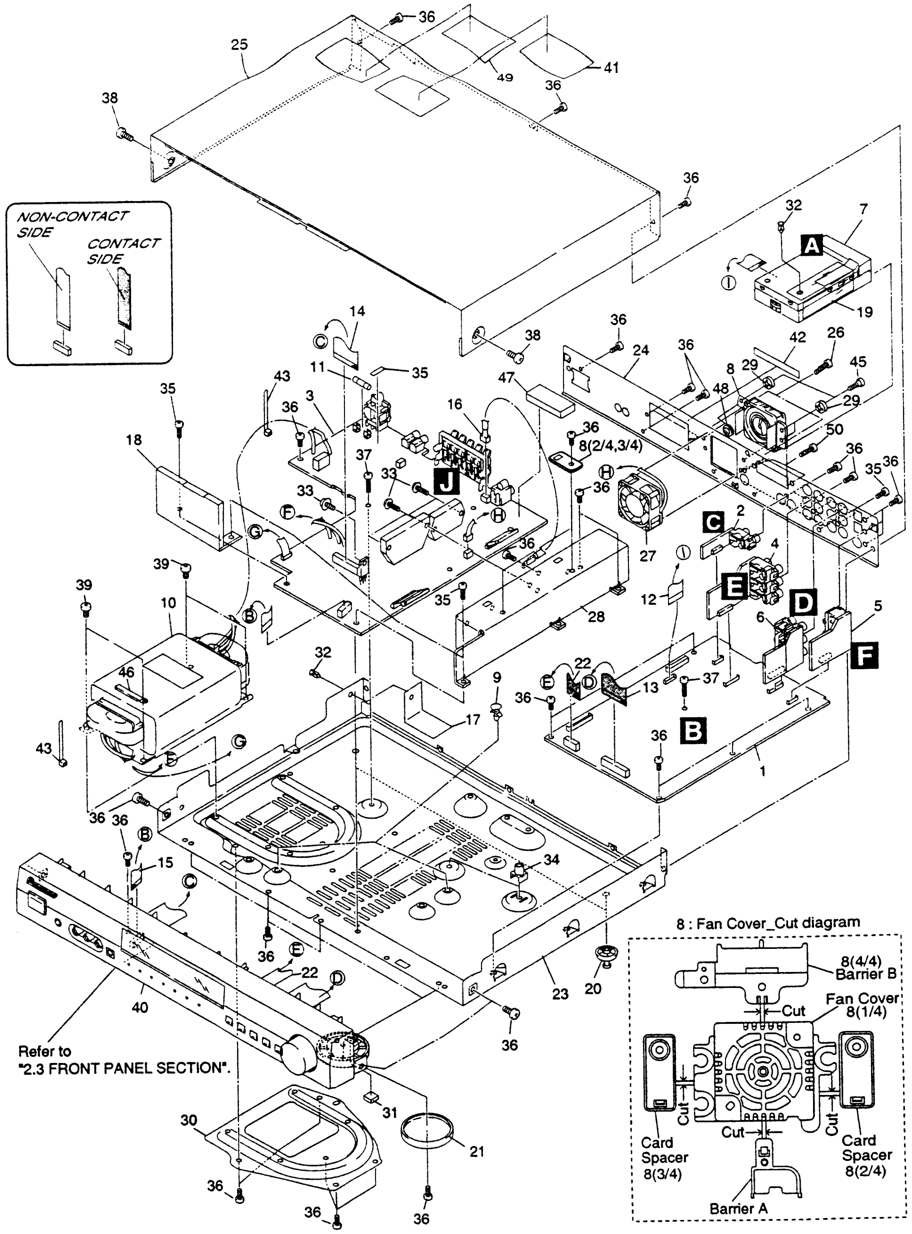
Mark	No.	Description	Part No.
	1	FM Wire Antenna	ADH7030
	2	AM Loop Antenna	ATB7009
NSP	3	Polyethylene Bag	See Contrast table(2)
NSP	4	Warranty Card	ARY7022
	5	Remote Control Unit	AXD7323
	6	Battery Cover	AZA7424
NSP	7	Dry Cell Battery (R6P, AA)	VEM1010
	8	Left Pad C100	AHA7381
	9	Right Pad C100	AHA7382
	10	Packing Sheet	AHG7015
	11	Packing Case	See Contrast table(2)
	12	Operating Instructions(English)	ARB7260
	13	Operating Instructions (German)	See Contrast table(2)
	14	Operating Instructions (French, Italian)	See Contrast table(2)
	15	Operating Instructions (Dutch, Spanish)	See Contrast table(2)
	16	AC Power Cord	See Contrast table(2)
	17	Speaker Cable Label	ARW7163
	18	Spacer	AHC7026

(2) CONTRAST TABLE

VSX-C100-S/MYXU, /NVXU and VSX-C100-K/MYXU are constructed the same except for the following :

Mark	NO	Symbol and Description	VSX-C100-S/ MYXU	VSX-C100-S/ NVXU	VSX-C100-K/ MYXU
NSP	3	Polyethylene Bag	AHG7097	Z21-038	AHG7097
	11	Packing Case	AHD8065	AHD8066	AHD8068
	13	Operating Instructions(German)	ARC7382	Not used	ARC7382
	14	Operating Instructions(French, Italian)	ARC7384	Not used	ARC3384
	15	Operating Instructions(Dutch, Spanish)	ARC7385	Not used	ARC3385
⚠	16	AC Power Cord	ADG1154	ADG1156	ADG1154

2.2 EXTERIOR SECTION



Refer to "2.3 FRONT PANEL SECTION".

(1) EXTERIOR SECTION parts List

Mark	No.	Description	Part No.
	1	DSP ASSY	AWX8049
	2	2P_JACK ASSY	AWX8048
	3	POWER(H) ASSY	AWX8042
	4	VIDEO ASSY	AWX8047
	5	DIGITAL-IN ASSY	AWX8046
	6	6PA-JACK ASSY	AWX8043
	7	FM/AM TUNER MODULE	AXQ7232
	8	FAN Cover(1/4)	AMR7389
	9	Card Spacer	VEC1708
⚠	10	Power Transformer (AC230V)	ATS7336
⚠	11	Fuse (FU1: T1.25A)	REK1023
	12	FFC (J005 :13P/90BD 60V) (DSP CN803 to TUNER CN201)	ADD7376
	13	FFC (J002 : 31P/100BD 60V) (DSP CN1702 to FRONT CN4202)	ADD7341
	14	FFC (J001 : 27P/120BD 60V) (POWER CN301 to FRONT CN4201)	ADD7342
	15	FFC (J004 :13P/90BD 60V) (POWER CN301 to FRONT INPUT CN4201)	ADD7376
	16	Thermistor (POWER CN306 to TH9014)	AEX7004
	17	AC Barrier	AEC7411
	18	Shield Plate	ANG7441
	19	Tuner Barrier	AEC7410
	20	Leg Assy	REC-434
	21	Ring	VNK4840
	22	FFC (J003 : 7P/100BD 60V) (DSP CN804 to FRONT CN203)	ADD7344

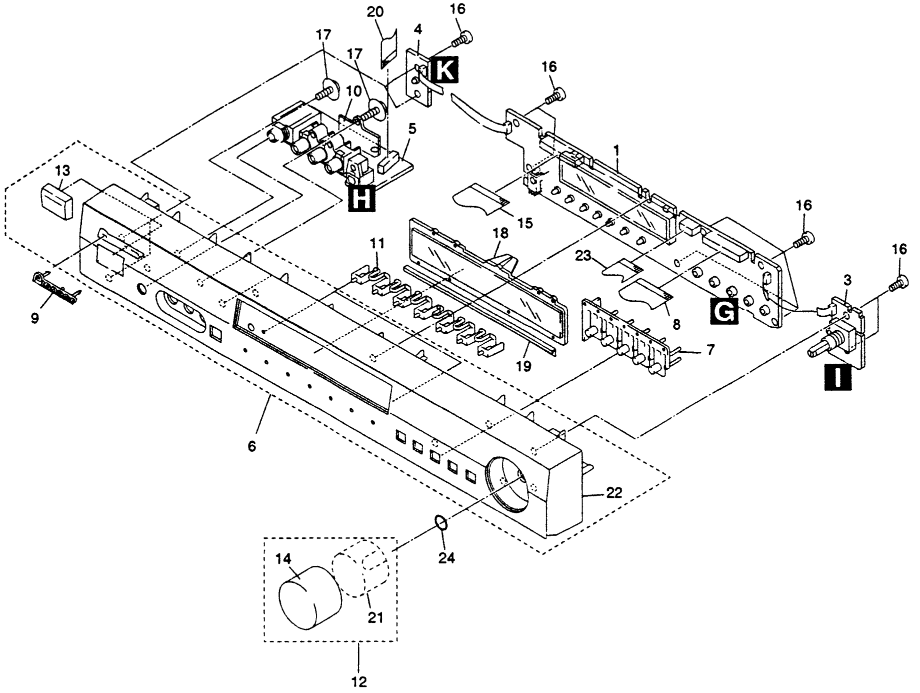
Mark	No.	Description	Part No.
NSP	23	Under Base	ANA7139
	24	Rear Panel	See Contrast table(2)
	25	Bonnet Case (Box)	See Contrast table(2)
	26	Screw	PPT30P100FZK
	27	DC Fan Motor	AXM7021
NSP	28	Heat Sink AL	ANH7153
	29	Rubber Damper	VEB1112
	30	Trans Stabilizer	ANG7415
	31	Rubber Cushion	VEB1325
	32	Plastic Rivet	DEC1704
	33	Screw With Washier	ABA7080
	34	PCB Mold	AMR2534
	35	Screw	BBT30P080FCC
	36	Screw	BBZ30P080FZK
	37	Screw	BBZ30P140FMC
	38	Screw	See Contrast table(2)
	39	Screw	BBZ40P060FCC
	40	Front Panel Assy	See Contrast table(2)
	41	Dolby DTS. Label	ARW7169
	42	Speaker Label E	ARW7161
	43	Binder	ZCA-BK1
	44	Screw (3x11.5)	ABA7071
	45	Steper Screw	PBA1014
	46	Cord Clamper	RNH1005
	47	Damper Coshion	AED7055
	48	Coshion Circle 4.5	AED7056
	49	Label C100SMY	ARW7171

(2) CONTRAST TABLE

VSX-C100-S/MYXU, /NVXU and VSX-C100-K/MYXU are constructed the same except for the following :

Mark	NO	Symbol and Description	VSX-C100-S/ MYXU	VSX-C100-S/ NVXU	VSX-C100-K/ MYXU
	24	Rear Panel	ANC8077	ANC8078	ANC8080
	25	Bonnet Case (Box)	AZN7900	AZN7900	AZN7901
	38	Screw	BBZ40P080FNI	BBZ40P080FNI	BBZ40P080FZK
	40	Front Panel Assy	AXG7157	AXG7157	AXG7158

2.3 FRONT SECTION



(1) FRONT SECTION parts Lis

Mark	No.	Description	Part No.
	1	FRONT ASSY	AWX8050
	2	POWER SW ASSY	AWX8051
	3	ENCODER ASSY	AWX8052
	4	• • • •	
	5	FRONT INPUT ASSY	AWX8053
	6	Front Panel Assy	See Contrast table(2)
NSP	7	Function Button	See Contrast table(2)
	8	FFC (J002 : 31P/60V) (Front CN4202 to DSP CN1702)	ADD7341
	9	Name Plate	See Contrast table(2)
	10	Barrier B (4/4)	AMR7389
	11	LED Lens	AAK7961
	12	Volume Knob Assy	See Contrast table(2)
NSP	13	Power Button	See Contrast table(2)
NSP	14	Volume Cap	See Contrast table(2)
	15	FFC (J001 : 27P/60V) (Front CN4201 to Power CN301)	ADD7342
	16	Screw	PPZ30P080FMC
	17	Screw (FE)	ABA7009
NSP	18	Display Panel	AAK7960
NSP	19	Hologram	AAK7964
	20	FFC (J004 :13P/60V) (Front input CN4101 to Power CN304)	ADD7376
NSP	21	Volume Mold	AAC7033
NSP	22	Front Panel	See Contrast table(2)
	23	FFC (J003 : 7P/60v) (Front CN4203 to DSP CN804)	ADD7344
	24	VOL Ring	ABH7220

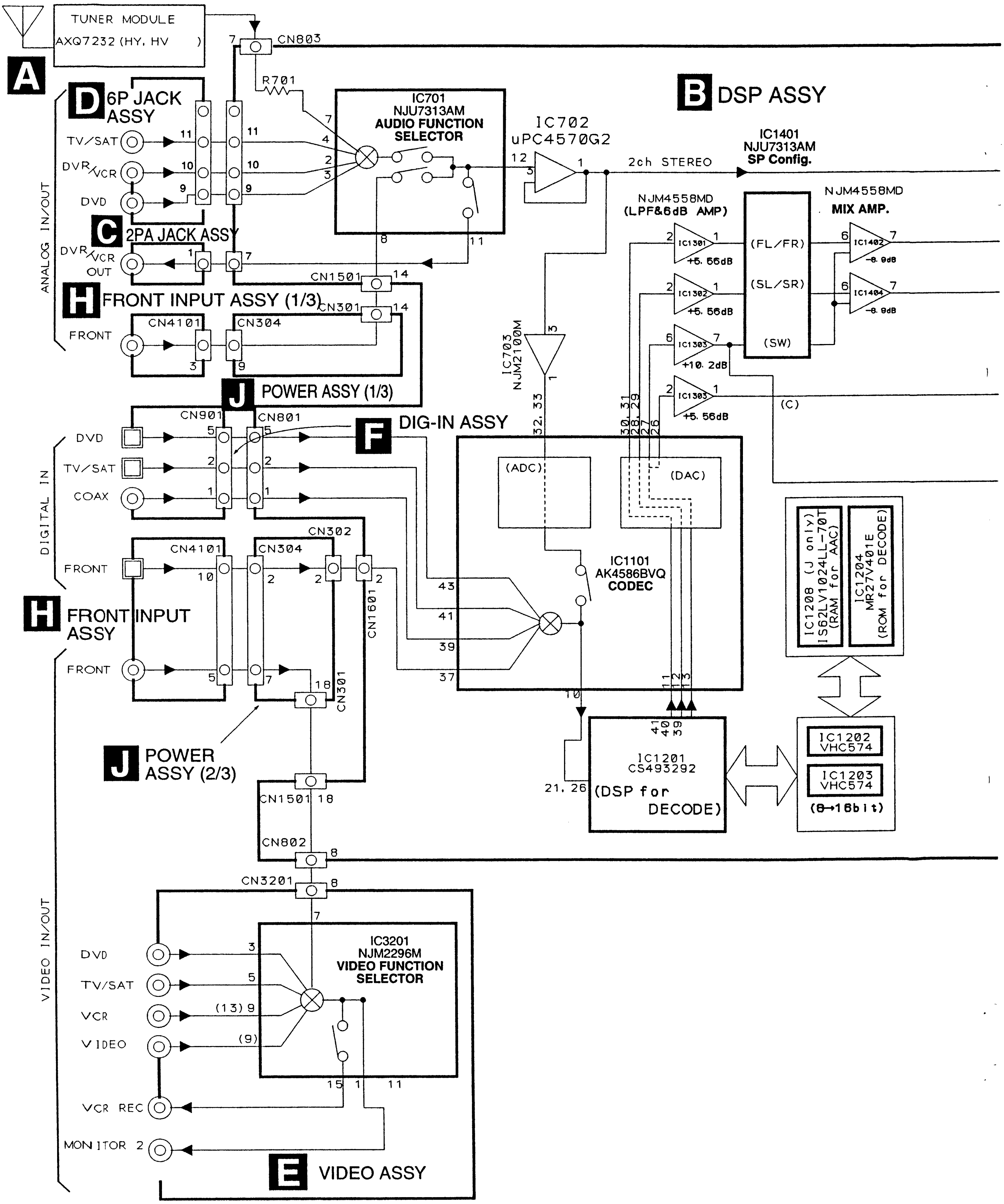
(2) CONTRAST TABLE

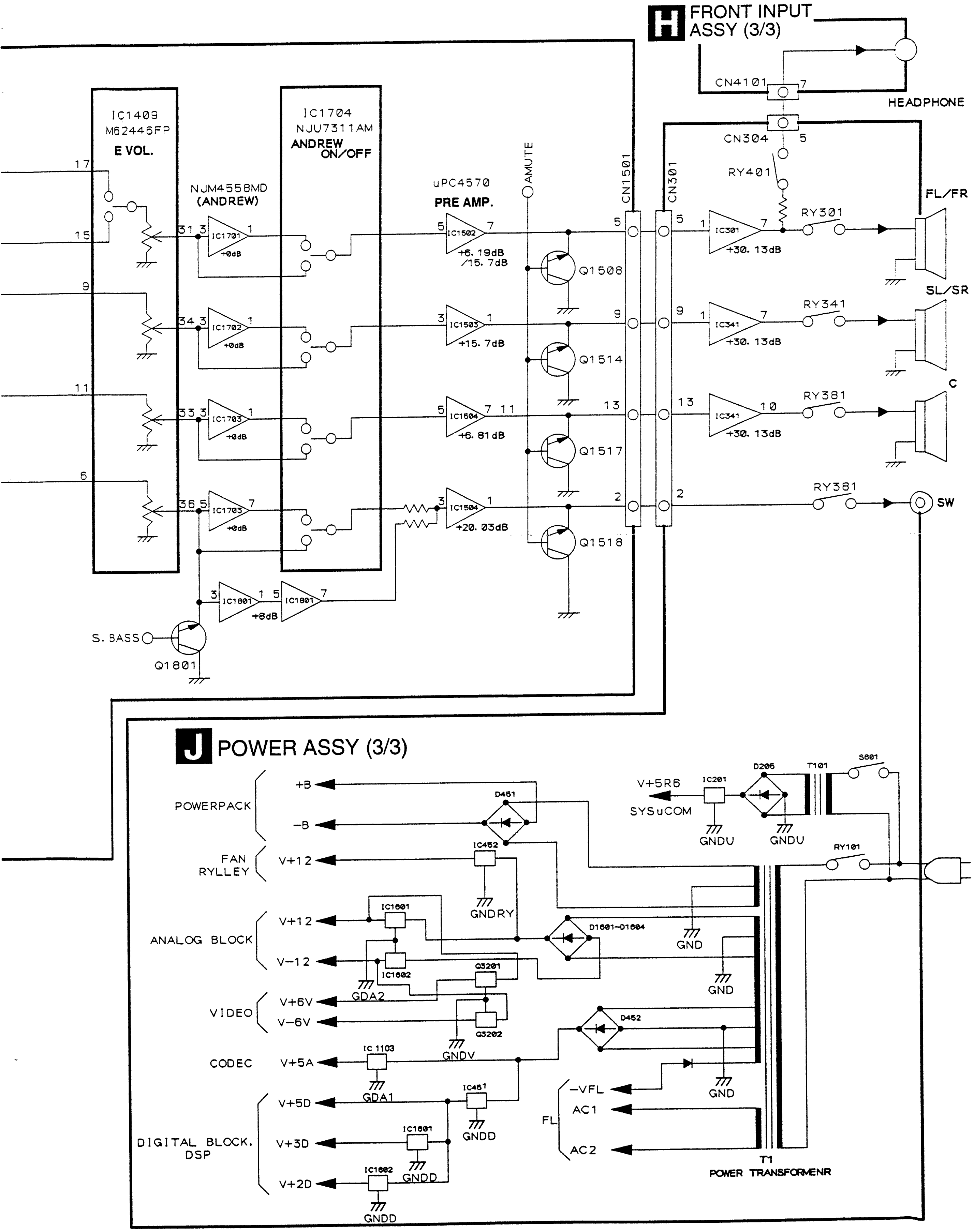
VSX-C100-S/MYXU, /NVXU and VSX-C100-K/MYXU are constructed the same except for the following :

Mark	NO	Symbol and Description	VSX-C100-S/ MYXU	VSX-C100-S/ NVXU	VSX-C100-K/ MYXU
	6	Front Panel Assy	AXG7157	AXG7157	AXG7158
NSP	7	Function Button	AAD7652	AAD7652	AAD7653
	9	Name Plate	VAM1129	VAM1129	VAM1130
	12	Volume Knob Assy	AAB7246	AAB7246	AAB7247
NSP	13	Power Button	AAD7654	AAD7654	AAD7655
NSP	14	Volume Cap	AAC7041	AAC7041	AAC7042
NSP	22	Front Panel	AMB7812	AMB7812	AMB7813

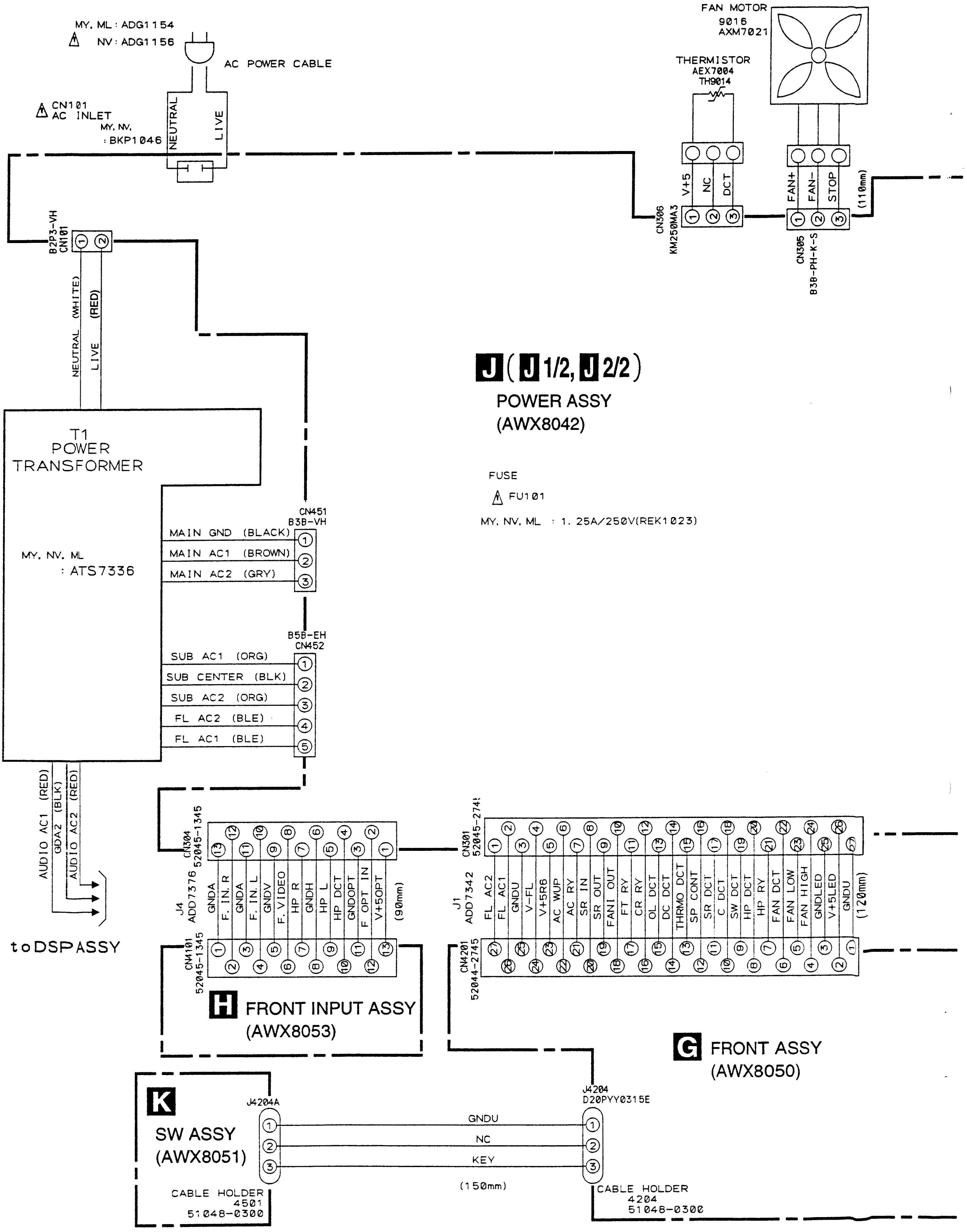
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

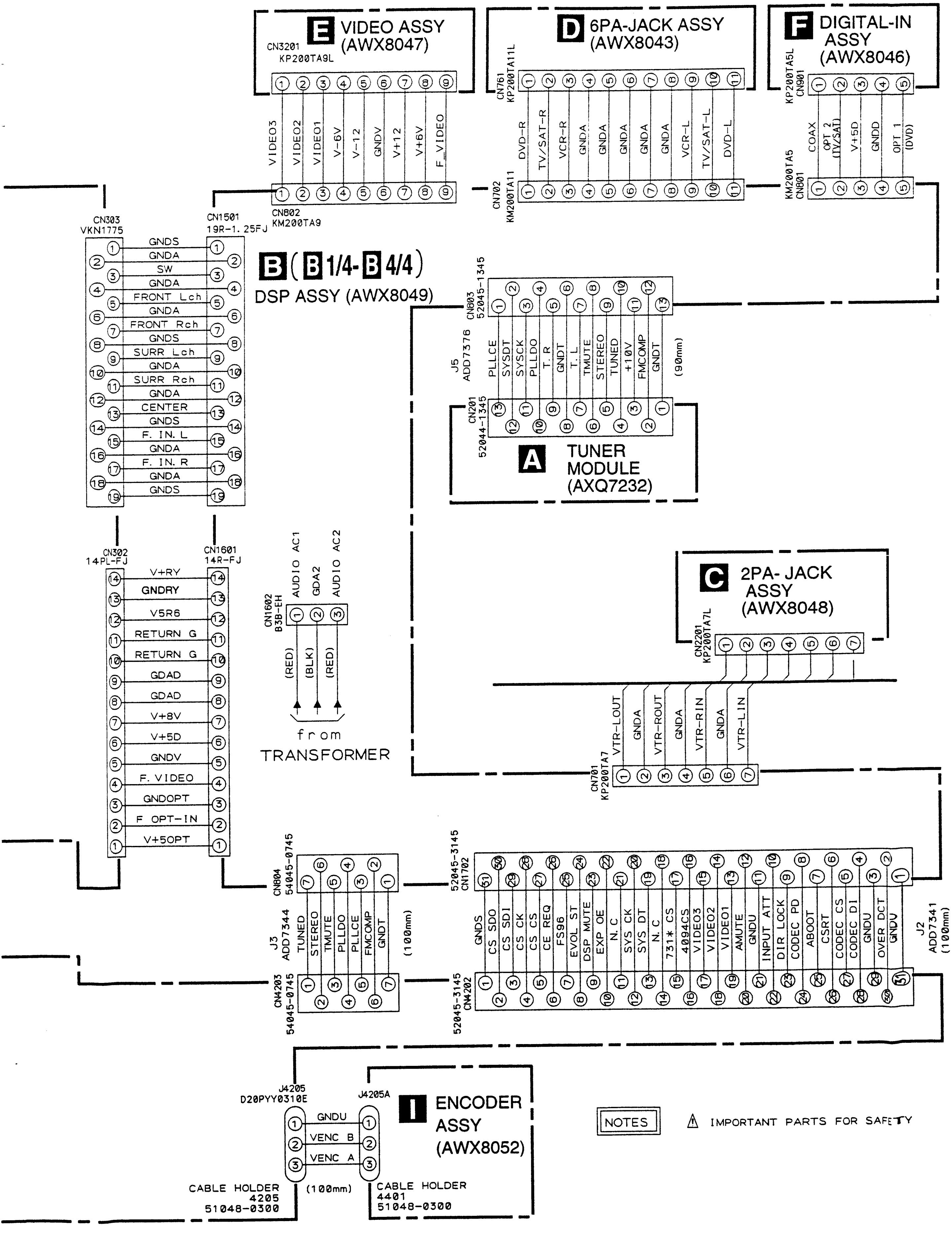
3.1 BLOCK DIAGRAM


TUNER MODULE
AXQ7232 (HY, HV)
A
CN803
7
R701
D 6P JACK ASSY
C 2PA JACK ASSY
B DSP ASSY
ANALOG IN/OUT
TV/SAT
DVR/VCR
DVD
DVR/VCR OUT
11
10
9
1
7
IC701
NJU7313AM
AUDIO FUNCTION SELECTOR
8
11
IC702
uPC4570G2
12
3
1
2ch STEREO
IC1401
NJU7313AM
SP Config.
NJM4558MD
(LPF&6dB AMP)
IC1301
+5.56dB
IC1302
+5.56dB
IC1303
+10.2dB
IC1305
+5.56dB
(FL/FR)
(SL/SR)
(SW)
(C)
NJM4558MD
MIX AMP.
IC1402
-8.9dB
IC1404
-8.9dB
6
7
CN1501
14
H FRONT INPUT ASSY (1/3)
CN301
CN4101
CN304
FRONT
3
9
J POWER ASSY (1/3)
IC703
NJM2100M
3
1
32, 33
30, 31
28, 29
27
26
CN901
CN801
F DIG-IN ASSY
DIGITAL IN
DVD
TV/SAT
COAX
5
2
1
(ADC)
(DAC)
IC1101
AK4586BVQ
CODEC
43
41
39
37
10
11
12
13
CN302
CN1601
FRONT
10
2
H FRONT INPUT ASSY
FRONT
5
7
18
CN301
J POWER ASSY (2/3)
CN1501 18
CN802
8
IC1201
CS493292
(DSP for DECODE)
21, 26
41
40
39
IC1208 (J only)
IS62LV1024LL-70T
(RAM for AAC)
IC1204
MR27V401E
(ROM for DECODE)
IC1202
VHC574
IC1203
VHC574
(8→16bit)
CN3201
8
7
VIDEO IN/OUT
IC3201
NJM2296M
VIDEO FUNCTION SELECTOR
DVD
TV/SAT
VCR
VIDEO
3
5
(13) 9
(9)
15
1
11
VCR REC
MONITOR 2
E VIDEO ASSY


H FRONT INPUT ASSY (3/3)
CN4101
7
HEADPHONE
CN304
5
RY401
FL/FR
RY301
IC1409
M62446FP
E VOL.
17
15
9
11
6
IC1704
NJU7311AM
ANDREW ON/OFF
NJM4558MD
(ANDREW)
IC1701
IC1702
IC1703
IC1705
+0dB
31
34
33
36
uPC4570
PRE AMP.
IC1502
+6.19dB /15.7dB
IC1503
+15.7dB
IC1504
+6.81dB
+20.03dB
AMUTE
Q1508
Q1514
Q1517
Q1518
CN1501
CN301
IC301
+30.13dB
IC341
RY341
SL/SR
RY381
C
SW
IC1801
+8dB
S.BASS
Q1801
J POWER ASSY (3/3)
POWERPACK
+B
-B
D451
FAN RYLLEY
V+12
IC452
GNDRY
ANALOG BLOCK
V+12
V-12
IC1601
IC1602
GDA2
Q3201
Q3202
D1601-D1604
GND
VIDEO
V+6V
V-6V
GNDV
CODEC
V+5A
IC 1103
D452
GDA1
DIGITAL BLOCK, DSP
V+5D
V+3D
V+2D
IC451
GNDD
IC1601
IC1602
FL
-VFL
AC1
AC2
T1
POWER TRANSFORMENR
V+5R6
SYSuCOM
IC201
D205
T101
S601
GNDU
RY101

3.2 OVERALL WIRING DIAGRAM


MY, ML : ADG1154
NV : ADG1156
AC POWER CABLE
NEUTRAL
LIVE
CN101
AC INLET
MY, NV,
: BKP1046
FAN MOTOR
9016
AXM7021
THERMISTOR
AEX7004
TH9014
V+5
NC
DCT
CN306
KM250MA3
FAN+
FAN-
STOP
(110mm)
CN305
B3B-PH-K-S
B2P3-VH
CN101
NEUTRAL (WHITE)
LIVE (RED)
J (J 1/2, J 2/2)
POWER ASSY
(AWX8042)
FUSE
FU101
MY, NV, ML : 1.25A/250V(REK1023)
T1
POWER
TRANSFORMER
MY, NV, ML
: ATS7336
CN451
B3B-VH
MAIN GND (BLACK)
MAIN AC1 (BROWN)
MAIN AC2 (GRY)
B5B-EH
CN452
SUB AC1 (ORG)
SUB CENTER (BLK)
SUB AC2 (ORG)
FL AC2 (BLE)
FL AC1 (BLE)
AUDIO AC1 (RED)
GDA2 (BLK)
AUDIO AC2 (RED)
toDSPASSY
CN304
52045-1345
J4
ADD7376
GNDA
F. IN. R
GNDA
F. IN. L
GNDV
F. VIDEO
HP R
GNDH
HP L
HP DCT
GNDOPT
F OPT IN
V+5OPT
(90mm)
CN4101
52045-1345
H FRONT INPUT ASSY
(AWX8053)
CN301
52045-2745
J1
ADD7342
FL AC2
FL AC1
GNDU
V-FL
V+5R6
AC WUP
AC RY
SR IN
SR OUT
FAN1 OUT
FT RY
CR RY
OL DCT
DC DCT
THRMO DCT
SP CONT
SR DCT
C DCT
SW DCT
HP DCT
HP RY
FAN DCT
FAN LOW
FAN HIGH
GNDLED
V+5LED
GNDU
(120mm)
CN4201
52044-2745
G FRONT ASSY
(AWX8050)
K
SW ASSY
(AWX8051)
J4204A
J4204
D20PYY0315E
GNDU
NC
KEY
(150mm)
CABLE HOLDER
4501
51048-0300
CABLE HOLDER
4204
51048-0300

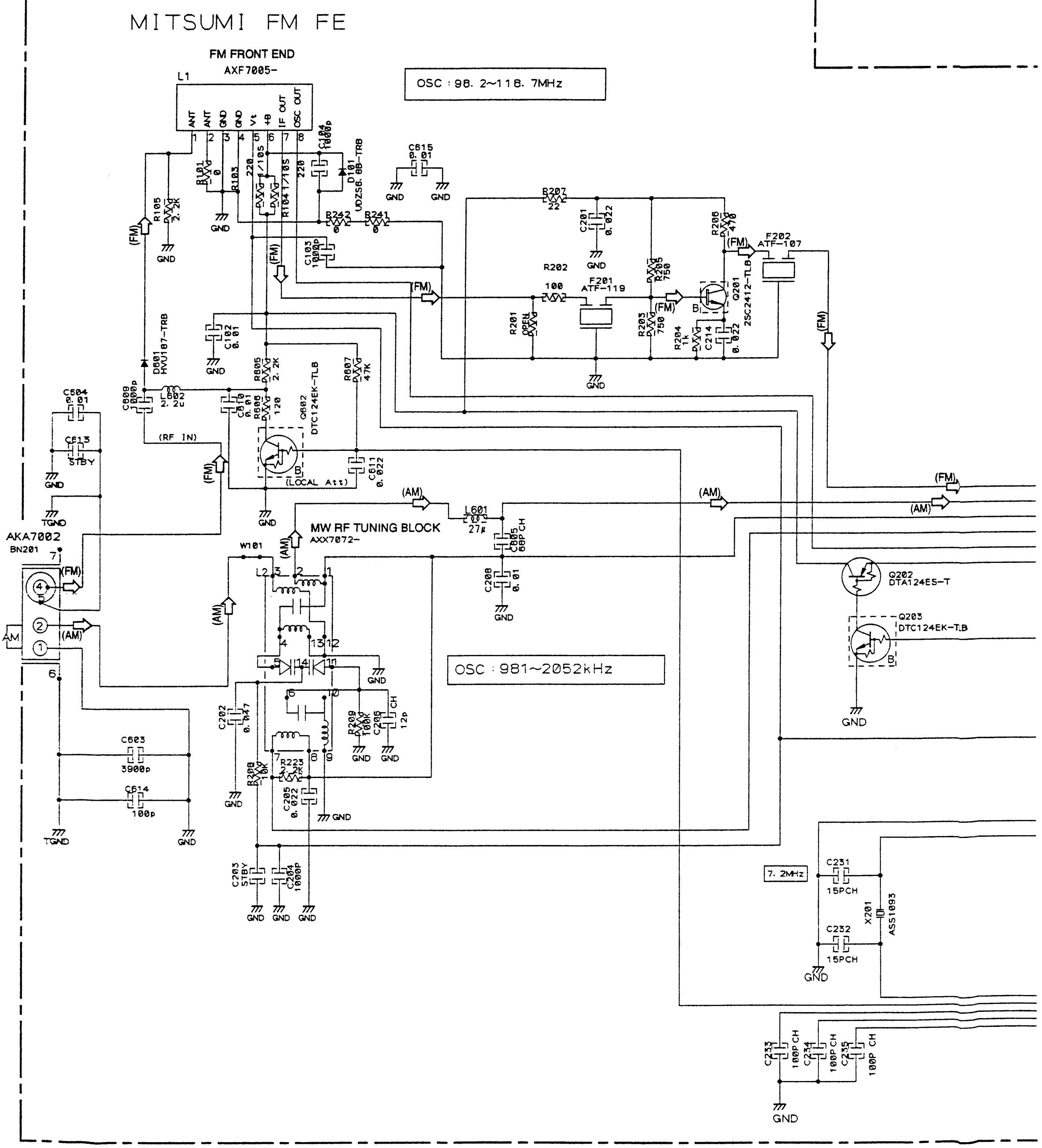

E VIDEO ASSY (AWX8047)
CN3201 KP200TA9L
VIDEO3
VIDEO2
VIDEO1
V-6V
V-12
GNDV
V+12
V+6V
F_VIDEO
CN802 KM200TA9
D 6PA-JACK ASSY (AWX8043)
CN761 KP200TA11L
DVD-R
TV/SAT-R
VCR-R
GNDA
GNDA
GNDA
GNDA
GNDA
VCR-L
TV/SAT-L
DVD-L
CN702 KM200TA11
F DIGITAL-IN ASSY (AWX8046)
KP200TA5L CN901
COAX
OPT 2 (TV/SAT)
V+5D
GNDD
OPT 1 (DVD)
KM200TA5 CN801
CN303 VKN1775
CN1501 19R-1.25FJ
GNDS
GNDA
SW
GNDA
FRONT Lch
GNDA
FRONT Rch
GNDS
SURR Lch
GNDA
SURR Rch
GNDA
CENTER
GNDS
F. IN. L
GNDA
F. IN. R
GNDA
GNDS
B (B 1/4-B 4/4) DSP ASSY (AWX8049)
CN803 52045-1345
J5 ADD7376
PLLCE
SYSDT
SYSCK
PLLDO
T. R
GNDT
T. L
TMUTE
STEREO
TUNED
+10V
FMCOMP
GNDT
(90mm)
CN201 52044-1345
A TUNER MODULE (AXQ7232)
CN302 14PL-FJ
CN1601 14R-FJ
V+RY
GNDRY
V5R6
RETURN G
RETURN G
GDAD
GDAD
V+8V
V+5D
GNDV
F. VIDEO
GNDOPT
F OPT-IN
V+5OPT
CN1602 B3B-EH
AUDIO AC1
GDA2
AUDIO AC2
(RED)
(BLK)
(RED)
from TRANSFORMER
C 2PA-JACK ASSY (AWX8048)
CN2201 KP200TA7L
VTR-LOUT
GNDA
VTR-ROUT
GNDA
VTR-RIN
GNDA
VTR-LIN
CN701 KP200TA7
CN804 54045-0745
J3 ADD7344
TUNED
STEREO
TMUTE
PLLDO
PLLCE
FMCOMP
GNDT
(100mm)
CN4203 54045-0745
52045-3145 CN1702
GNDS
CS SDO
CS SDI
CS CK
CS CS
CE REQ
FS96
EVOL ST
DSP MUTE
EXP OE
N. C
SYS CK
SYS DT
N. C
731* CS
4094CS
VIDEO3
VIDEO2
VIDEO1
AMUTE
GNDU
INPUT ATT
DIR LOCK
CODEC PD
ABOOT
CSRT
CODEC CS
CODEC DI
GNDU
OVER DCT
GNDU
J2 ADD7341 (100mm)
52045-3145 CN4202
J4205 D20PYY0310E
J4205A
GNDU
VENC B
VENC A
CABLE HOLDER 4205 51048-0300
(100mm)
CABLE HOLDER 4401 51048-0300
I ENCODER ASSY (AWX8052)

NOTES

⚠ IMPORTANT PARTS FOR SAFETY

3.3 FM/AM TUNER MODULE

A FM/AM TUNER MODULE (AXQ7232)


MITSUMI FM FE
FM FRONT END
AXF7005-
L1
ANT
ANT
GND
GND
Vt
+B
IF OUT
OSC OUT
OSC : 98. 2~118. 7MHz
C104 1000p
D101 UDZS6. 8B-TRB
C615 0.01
GND
R101 0
R103
220
R104 1/10S
R104 1/10S
220
R242 0
R241 0
R105 2.2K
(FM)
GND
C103 1000p
R207 22
C201 0.022
R202 100
F201 ATF-119
R201 OPEN
R205 750
R203 750
R204 1k
C214 0.022
R206 470
Q201 2SC2412-TLB
F202 ATF-107
(FM)
C102 0.01
D601 HVU187-TRB
R605 2.2K
R607 47K
Q602 DTC124EK-TLB
C604 0.01
C609 1000p
L602 2.2u
C610 0.01
R609 120
C613 STBY
(RF IN)
C611 0.022
(LOCAL Att)
TGND
(AM)
L601 27u
C605 68P CH
C208 0.01
MW RF TUNING BLOCK
AXX7072-
W101
AKA7002
BN201
AM
(AM)
Q202 DTA124ES-T
Q203 DTC124EK-T,B
OSC : 981~2052kHz
C202 0.047
R209 100K
C206 12p CH
R208 10K
R223 2.2K
C205 0.022
C603 3900p
C614 100p
C203 STBY
C204 1000P
7. 2MHz
C231 15PCH
X201 ASS1093
C232 15PCH
C233 100P CH
C234 100P CH
C235 100P CH
GND

▭ : The power supply is shown with the marked box.

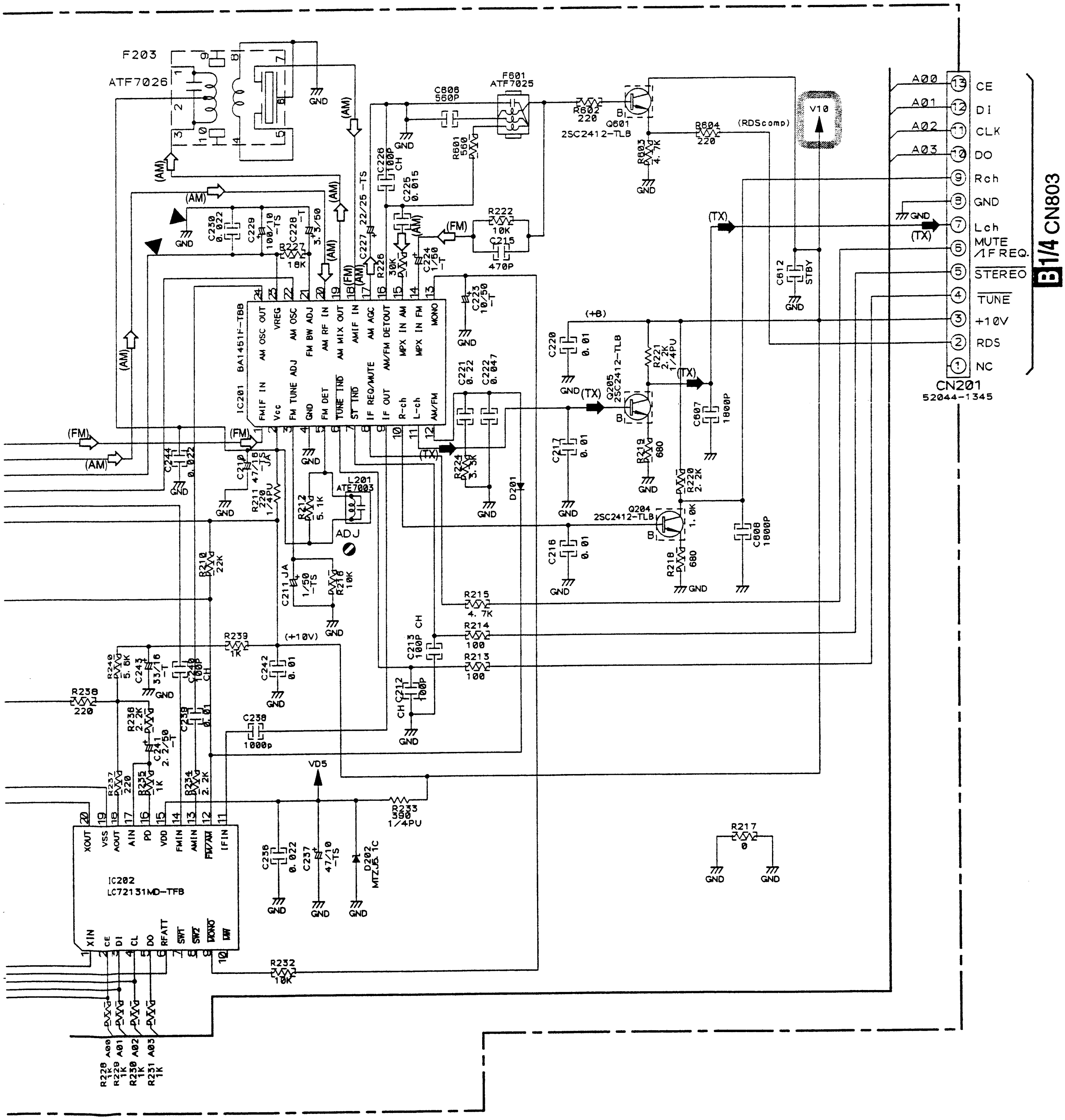
(TX) ➡ : AUDIO SIGNAL ROUTE (TUNER)

(AM) ⇨ : AM SIGNAL ROUTE

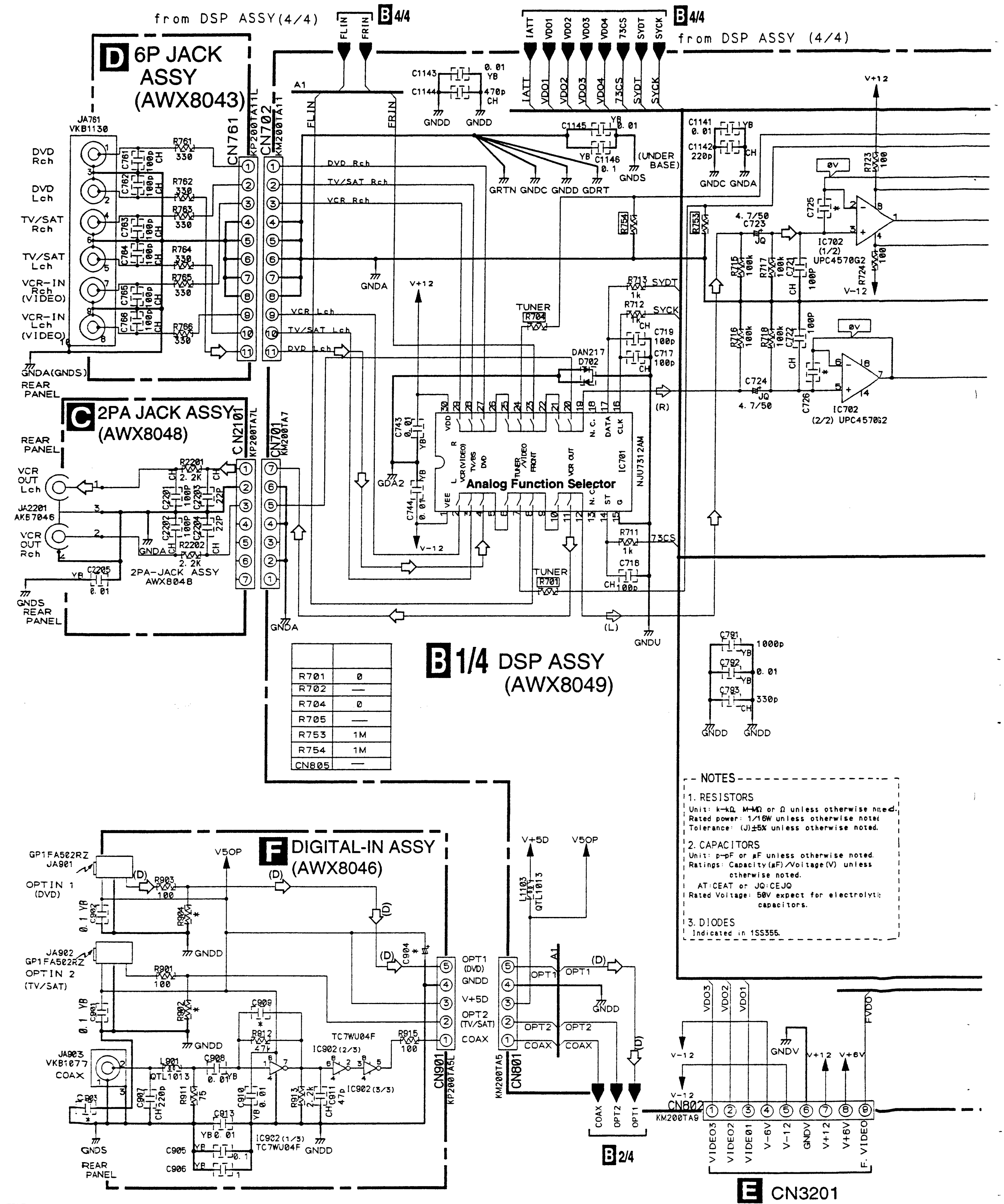
(FM) ⇨ : FM SIGNAL ROUTE

Notes

1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K:kΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(µF)/VOLTAGE (V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS133.


F203
ATF7026
GND
F601
ATF7025
C606
560P
R602
220
Q601
2SC2412-TLB
R604
220
(RDScomp)
V10
R601
560
R603
4.7K
C226
100P
CH
C225
0.015
R222
10K
C215
470P
C230
0.022
C229
100/10
-TS
C228
3.3/50
R227
18K
C227
22/25
-TS
R226
30K
C224
1/50
-T
C223
10/50
-T
IC201 BA1451F-TBB
AM OSC OUT
VREG
AM OSC
FM BW ADJ
AM RF IN
AM MIX OUT
AMIF IN
AM AGC
AM/FM DETOUT
MPX IN AM
MPX IN FM
MONO
FMIF IN
Vcc
FM TUNE ADJ
GND
FM DET
TUNE IND
ST IND
IF REQ/MUTE
IF OUT
R-ch
L-ch
AM/FM
C221
0.22
C222
0.047
C220
0.01
Q205
2SC2412-TLB
R221
2.2K
1/4PU
C607
1800P
C217
0.01
R219
680
R220
2.2K
Q204
2SC2412-TLB
1.0K
C216
0.01
R218
680
C608
1800P
C612
STBY
C244
0.022
C210
47/16
-JA
R211
220
1/4PU
R212
5.1K
L201
ATE7003
ADJ
D201
R224
3.3K
R210
22K
C211 JA
1/50
-TS
R216
10K
R215
4.7K
R214
100
R213
100
C213
100P
CH
C212
100P
CH
R239
1K
(+10V)
C242
0.01
R240
5.6K
C243
33/16
-T
C240
100P
CH
R238
220
R236
2.2K
C241
2.2/50
-T
C239
0.01
C238
1000p
R237
220
R235
1K
R234
2.2K
VD5
R233
390
1/4PU
C236
0.022
C237
47/10
-TS
D202
MTZJ5.1C
R217
0
IC202
LC72131MD-TFB
XOUT
VSS
AOUT
AIN
PD
VDD
FMIN
AMIN
FM/AM
IFIN
XIN
CE
DI
CL
DO
RFATT
SW1
SW2
MONO
DW
R232
10K
R228 A00 1K
R229 A01 1K
R230 A02 1K
R231 A03 1K
A00
A01
A02
A03
CN201
52044-1345
CE
DI
CLK
DO
Rch
GND
Lch
MUTE /IF REQ.
STEREO
TUNE
+10V
RDS
NC
B1/4 CN803
(AM)
(FM)
(TX)
(+B)

3.4 DSP(1/4), 2P-JACK, 6P-JACK, DIGITAL-IN and FRONT INPUT ASSYS


from DSP ASSY(4/4)
B 4/4
FLIN
FRIN
IATT
VDO1
VDO2
VDO3
VDO4
73CS
SYDT
SYCK
from DSP ASSY (4/4)
D 6P JACK ASSY (AWX8043)
JA761 VKB1130
DVD Rch
DVD Lch
TV/SAT Rch
TV/SAT Lch
VCR-IN Rch (VIDEO)
VCR-IN Lch (VIDEO)
GNDA(GNDS)
REAR PANEL
CN761 KP200TA11L
CN702 KM200TA11
R761 330
R762 330
R763 330
R764 330
R765 330
R766 330
C761 100p CH
C762 100p CH
C763 100p CH
C764 100p CH
C765 100p CH
C766 100p CH
A1
C1143 0.01 YB
C1144 470p CH
GNDD
C1145 0.01 YB
C1146 0.1 YB
(UNDER BASE)
GNDS
GRTN GNDC GNDD GDRT
C1141 0.01 YB
C1142 220p CH
GNDC GNDA
V+12
DVD Rch
TV/SAT Rch
VCR Rch
VCR Lch
TV/SAT Lch
DVD Lch
GNDA
V+12
R754
R753
C723 4.7/50 JQ
C725
0V
IC702 (1/2) UPC4570G2
R723 100
R724 100
R715 100k
R717 100k
R716 100k
R718 100k
C721 100P CH
C722 100P CH
V-12
R713 1k SYDT
R712 1k SYCK
TUNER R704
C719 100p CH
C717 100p CH
DAN217 D702
C724 4.7/50 JQ
C726
IC702 (2/2) UPC4570G2
(R)
C743 0.01 YB
C744 0.01 YB
GDA2
V-12
IC701 NJU7312AM
Analog Function Selector
VDD
R
VCR(VIDEO)
TV/BS
DVD
TUNER
/VIDEO
FRONT
VCR OUT
N.C.
DATA
CLK
L
VEE
ST
G
R711 1k
73CS
C718 100p CH
TUNER R701
(L)
GNDU
GNDA
C 2PA JACK ASSY (AWX8048)
REAR PANEL
VCR OUT Lch
VCR OUT Rch
JA2201 AKB7046
R2201 2.2K
R2202 2.2K
C2201 100P CH
C2202 100P CH
C2203 22P CH
C2204 22P CH
C2205 0.01 YB
GNDA
GNDS
2PA-JACK ASSY AWX8048
CN2101 KP200TA7L
CN701 KM200TA7
B 1/4 DSP ASSY (AWX8049)
C791 1000p YB
C792 0.01 YB
C793 330p CH
GNDD
F DIGITAL-IN ASSY (AWX8046)
GP1FA502RZ JA901
OPTIN 1 (DVD)
JA902 GP1FA502RZ
OPTIN 2 (TV/SAT)
V5OP
(D)
R903 100
R904
R901 100
R902
C902 0.1 YB
C901 0.1 YB
C904
GNDD
JA903 VKB1077
COAX
L901 QTL1013
C908 0.01 YB
C907 220p CH
R911 75
C909
R912 47k
IC902(2/3)
TC7WU04F
IC902(3/3)
R915 100
R913 2.2k
C911 47p CH
C910 0.01 YB
C913 0.01 YB
IC902(1/3) TC7WU04F
C903
GNDS
REAR PANEL
C905 0.1 YB
C906 1
GNDD
OPT1 (DVD)
GNDD
V+5D
OPT2 (TV/SAT)
COAX
CN901 KP200TA5L
CN801 KM200TA5
V+5D
V5OP
L1103 QTL1013
OPT1
OPT2
COAX
B 2/4
VDO3
VDO2
VDO1
FVDO
V-12
GNDV
V+12
V+6V
CN802 KM200TA9
VIDEO3
VIDEO2
VIDEO1
V-6V
V-12
GNDV
V+12
V+6V
F.VIDEO
E CN3201

R701	0
R702	—
R704	0
R705	—
R753	1M
R754	1M
CN805	—

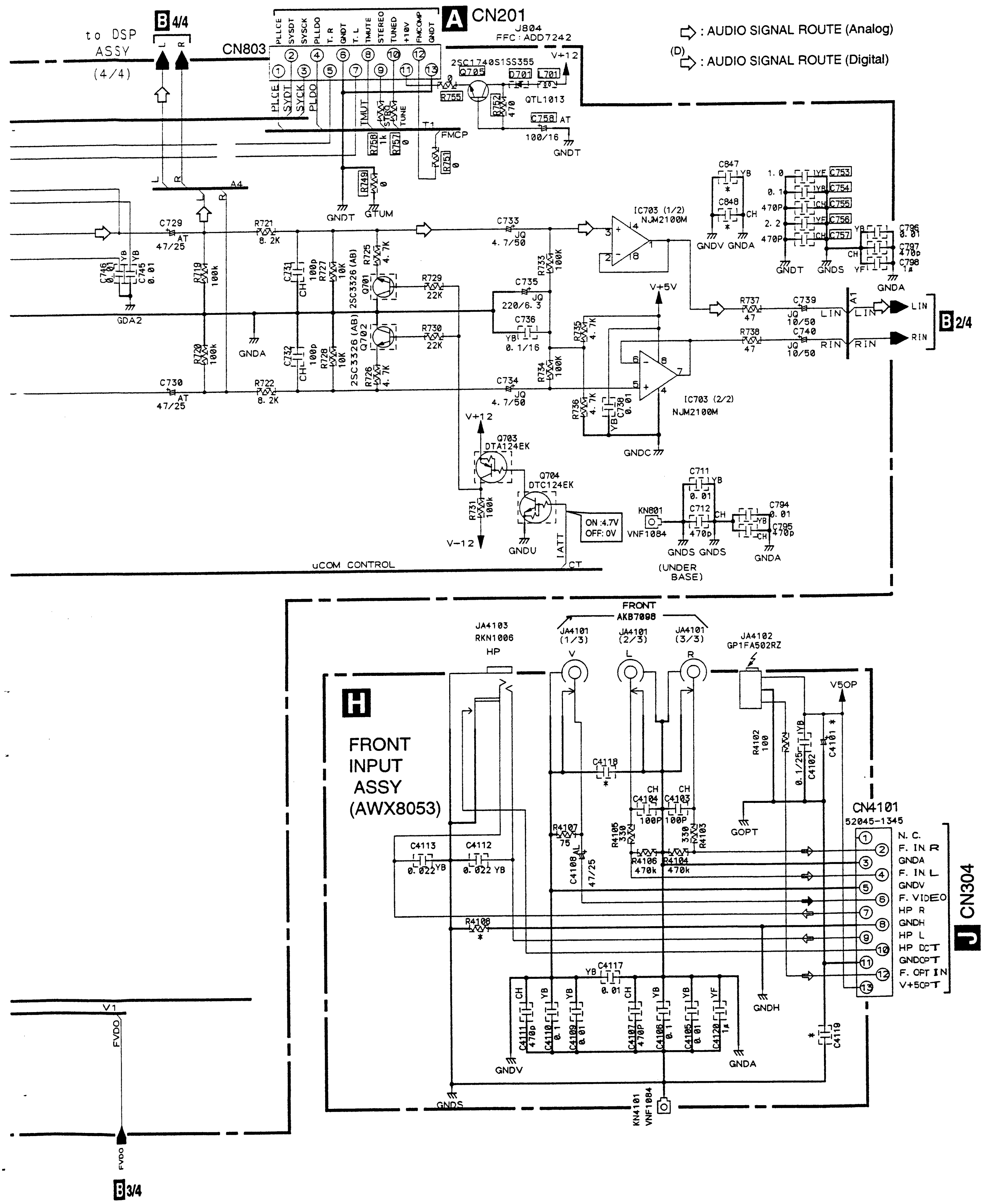
NOTES

1. RESISTORS
Unit: k–kΩ, M–MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted
Tolerance: (J)±5% unless otherwise noted.

2. CAPACITORS
Unit: p–pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
AT:CEAT or JQ:CEJQ
Rated Voltage: 50V expect for electrolytic capacitors.

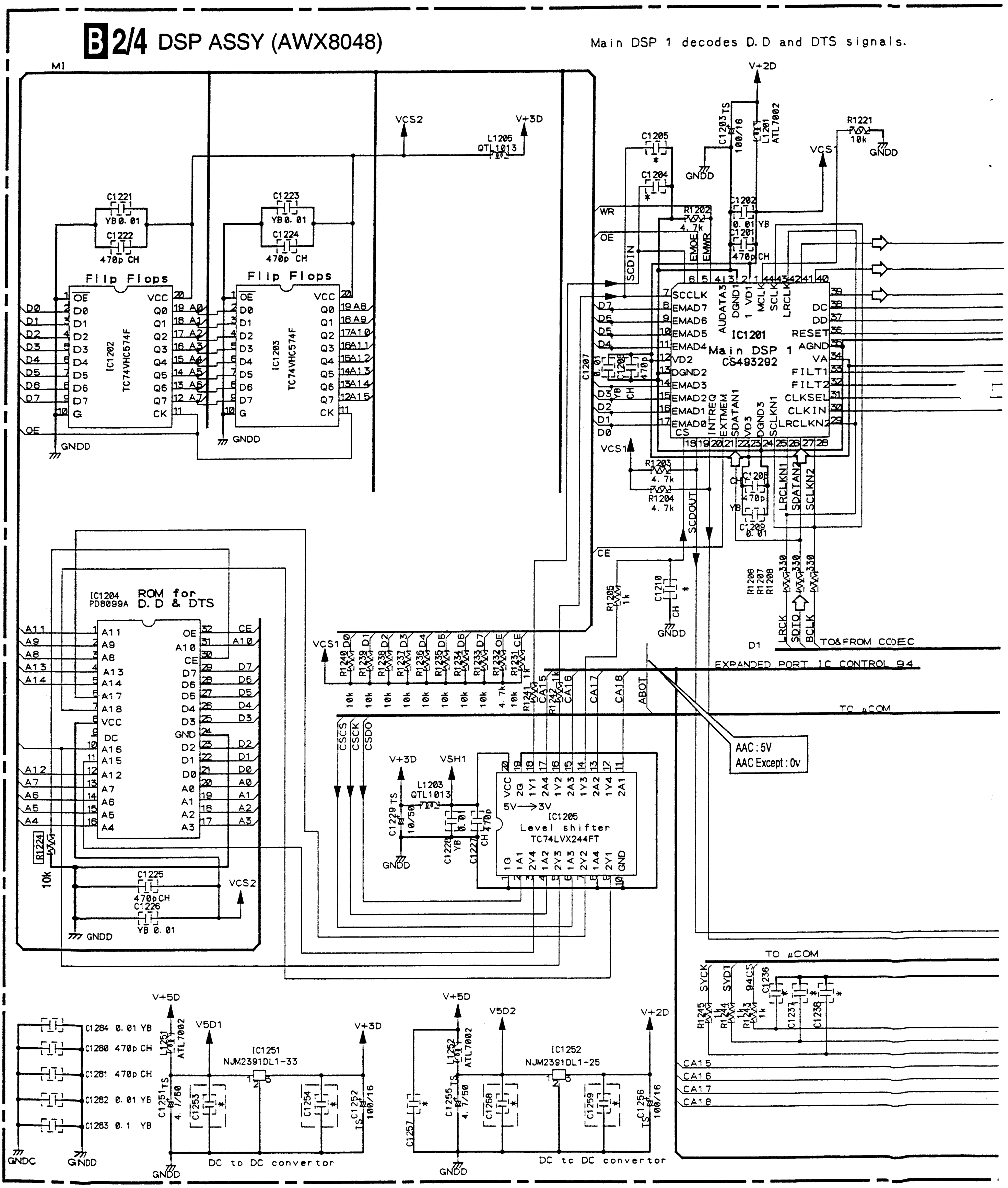
3. DIODES
Indicated in 1SS355.

B 1/4 C D F


⇨ : AUDIO SIGNAL ROUTE (Analog)
(D) ⇨ : AUDIO SIGNAL ROUTE (Digital)
to DSP ASSY (4/4)
B 4/4
CN803
A CN201
J804 FFC : ADD7242
PLLCE SYSDT SYSCK PLLDO T.R GNDT T.L TMUTE STEREO TUNED +10V FMCOMP GNDT
2SC1740S1SS355
Q705
D701
L701
V+12
R755
R752 470
QTL1013
C758 AT 100/16
GNDT
FMCP
R758 1k
R757 0
R751 0
R749 0
GTUM
A4
C729 AT 47/25
R721 8.2K
C733 JQ 4.7/50
IC703 (1/2) NJM2100M
C847 YB
C848 CH
GNDV GNDA
C753 C754 C755 C756 C757
1.0 0.1 470P 2.2 470P
C796 0.01
C797 470p
C798 1μ
GNDT GNDS GNDA
C746 0.01 YB
C745 0.01 YB
R719 100k
C731 CHL 100p
R727 10K
R725 4.7K
2SC3326(AB) Q701
R729 22K
C735 JQ 220/6.3
R733 100K
V+5V
R737 47
C739 JQ 10/50
LIN RIN
B 2/4
GDA2
GNDA
C736 YB 0.1/16
R720 100k
C732 CHL 100p
R728 10K
2SC3326(AB) Q702
R730 22K
R735 4.7K
R738 47
C740 JQ 10/50
R726 4.7K
R734 100K
C730 AT 47/25
R722 8.2K
C734 JQ 4.7/50
R736 4.7K
C738 YB 0.01
IC703 (2/2) NJM2100M
GNDC
V+12
Q703 DTA124EK
Q704 DTC124EK
R731 100k
V-12
GNDU
ON :4.7V OFF: 0V
IATT
C711 YB 0.01
KN801 VNF1084
C712 470p CH
C794 0.01 YB
C795 470p CH
GNDS GNDS
GNDA
(UNDER BASE)
uCOM CONTROL
CT
FRONT AKB7098
JA4103 RKN1006 HP
JA4101 (1/3) V
JA4101 (2/3) L
JA4101 (3/3) R
JA4102 GP1FA502RZ
V5OP
H
FRONT INPUT ASSY (AWX8053)
C4118 *
R4102 100
C4102 0.1/25 YB
C4101 *
C4104 CH 100P
C4103 CH 100P
R4105 330
R4103 330
GOPT
CN4101 52045-1345
R4107 75
C4108 AL 47/25
R4106 470k
R4104 470k
C4113 0.022 YB
C4112 0.022 YB
R4108 *
1 N.C.
2 F.IN R
3 GNDA
4 F.IN L
5 GNDV
6 F.VIDEO
7 HP R
8 GNDH
9 HP L
10 HP DCT
11 GNDOPT
12 F.OPT IN
13 V+5OPT
J CN304
C4117 YB 0.01
C4111 CH 470p
C4110 YB 0.1
C4109 YB 0.01
C4107 CH 470P
C4106 YB 0.1
C4105 YB 0.01
C4120 YF 1μ
GNDH
C4119 *
GNDV
GNDA
GNDS
KN4101 VNF1084
V1
FVDO
FVDO
B 3/4

B1/4 H

3.5 DSP(2/4) ASSY

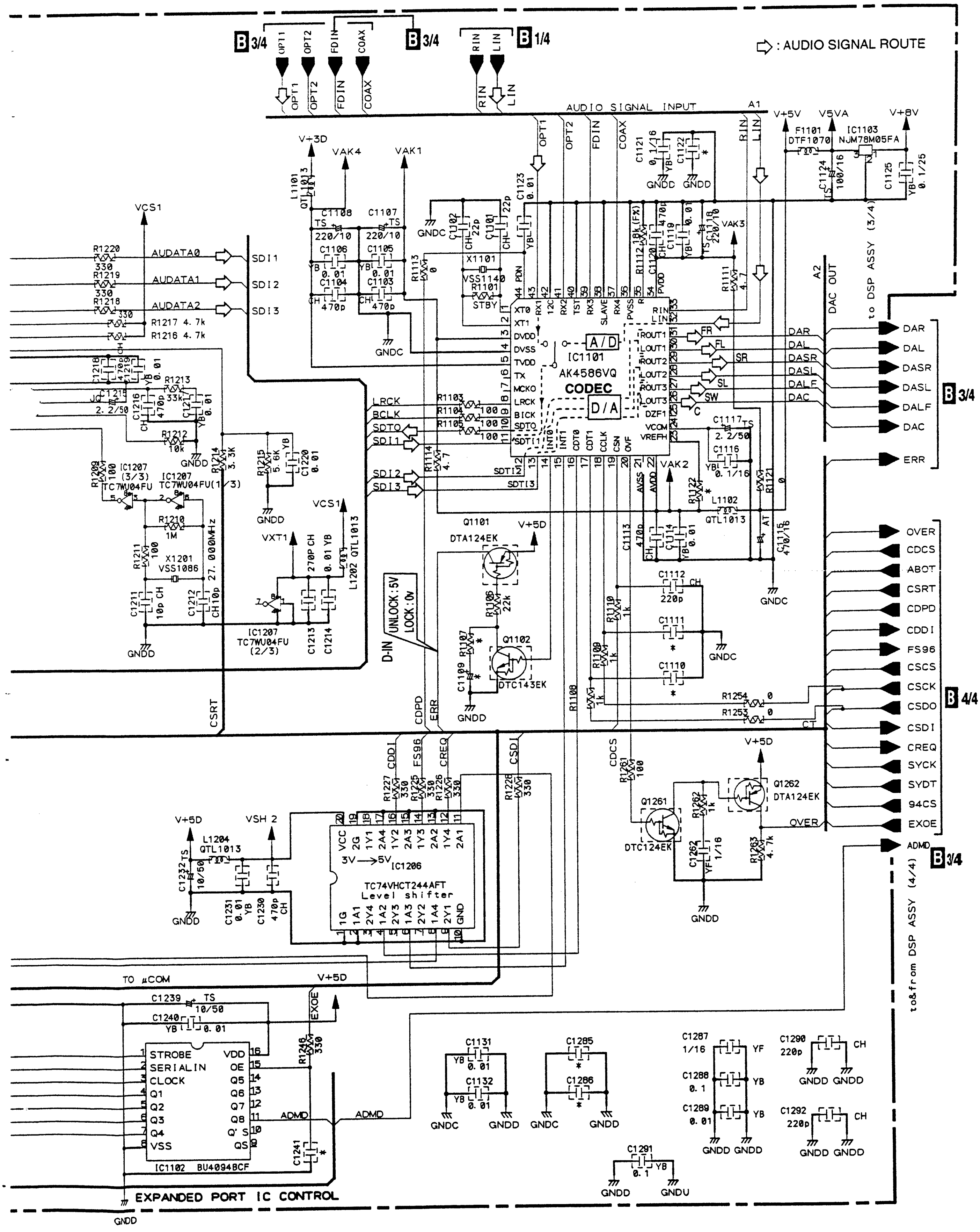


B 2/4 DSP ASSY (AWX8048)

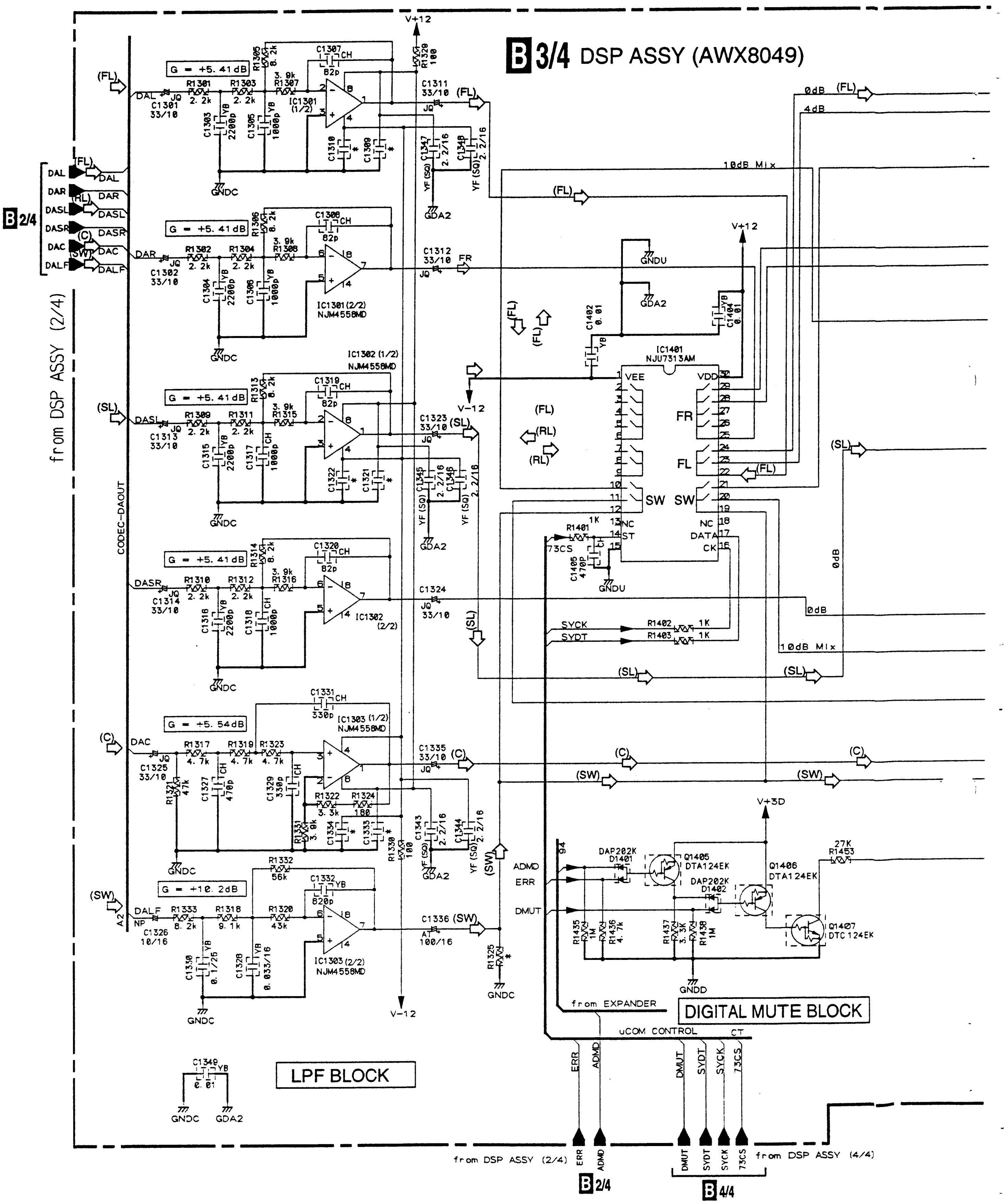
Main DSP 1 decodes D.D and DTS signals.

MI
VCS2
V+3D
L1205
QTL1013
C1221
YB 0.01
C1222
470p CH
C1223
YB 0.01
C1224
470p CH
Flip Flops
IC1202
TC74VHC574F
IC1203
TC74VHC574F
OE
D0 D1 D2 D3 D4 D5 D6 D7
G
VCC
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7
CK
A0 A1 A2 A3 A4 A5 A6 A7
A8 A9 A10 A11 A12 A13 A14 A15
GNDD
V+2D
C1203 TS 100/16
L1201 ATL7002
R1221 10k
VCS1
C1205
C1204
C1202 0.01 YB
C1201 470p CH
R1202 4.7k
WR
SCDIN
EMOE
EMWR
IC1201
Main DSP 1
CS493292
SCCLK
EMAD7 EMAD6 EMAD5 EMAD4
VD2
DGND2
EMAD3 EMAD2 EMAD1 EMAD0
CS
INTREQ
EXTMEM
SDATAN1
VD3
DGND3
SCLKN1
LRCLKN1
SDATAN2
SCLKN2
LRCLKN2
CLKIN
CLKSEL
FILT2
FILT1
VA
AGND
RESET
DD
DC
AUDATA3
DGND1
VD1
MCLK
SCLK
LRCLK
C1207 0.01 YB
C1206 470p CH
VCS1
R1203 4.7k
R1204 4.7k
C1208 470p CH
C1209 0.01 YB
SCDOUT
R1206 R1207 R1208 330
LRCK
SDTO
BCLK
TO&FROM CODEC
CE
R1205 1k
C1210 CH
D1
EXPANDED PORT IC CONTROL 94
TO μCOM
AAC : 5V
AAC Except : 0v
ABOT
IC1204
PD6099A
ROM for D. D & DTS
A16 A17 A18
DC
GND
R1224 10k
C1225 470p CH
C1226 YB 0.01
VCS1
R1240 R1239 R1238 R1237 R1236 R1235 R1234 R1233 10k
R1232 4.7k
R1231 10k
R1241 1k
R1242 1k
CA15 CA16 CA17 CA18
CSCS CSCK CSDO
V+3D
VSH1
L1203 QTL1013
C1229 TS 10/50
C1228 YB 0.01
C1227 CH 470p
IC1205
Level shifter
TC74LVX244FT
5V→3V
2G 1Y1 2A4 1Y2 2A3 1Y3 2A2 1Y4 2A1
1G 1A1 2Y4 1A2 2Y3 1A3 2Y2 1A4 2Y1
SYCK SYDT 94CS
R1245 R1244 R1243 1k
C1236 C1237 C1238
C1284 0.01 YB
C1280 470p CH
C1281 470p CH
C1282 0.01 YB
C1283 0.1 YB
GNDC
V+5D
V5D1
L1251 ATL7002
IC1251
NJM2391DL1-33
C1251 TS 4.7/50
C1253
C1254
C1252 TS 100/16
DC to DC convertor
V5D2
V+2D
L1252 ATL7002
IC1252
NJM2391DL1-25
C1257
C1255 TS 4.7/50
C1258
C1259
C1256 TS 100/16

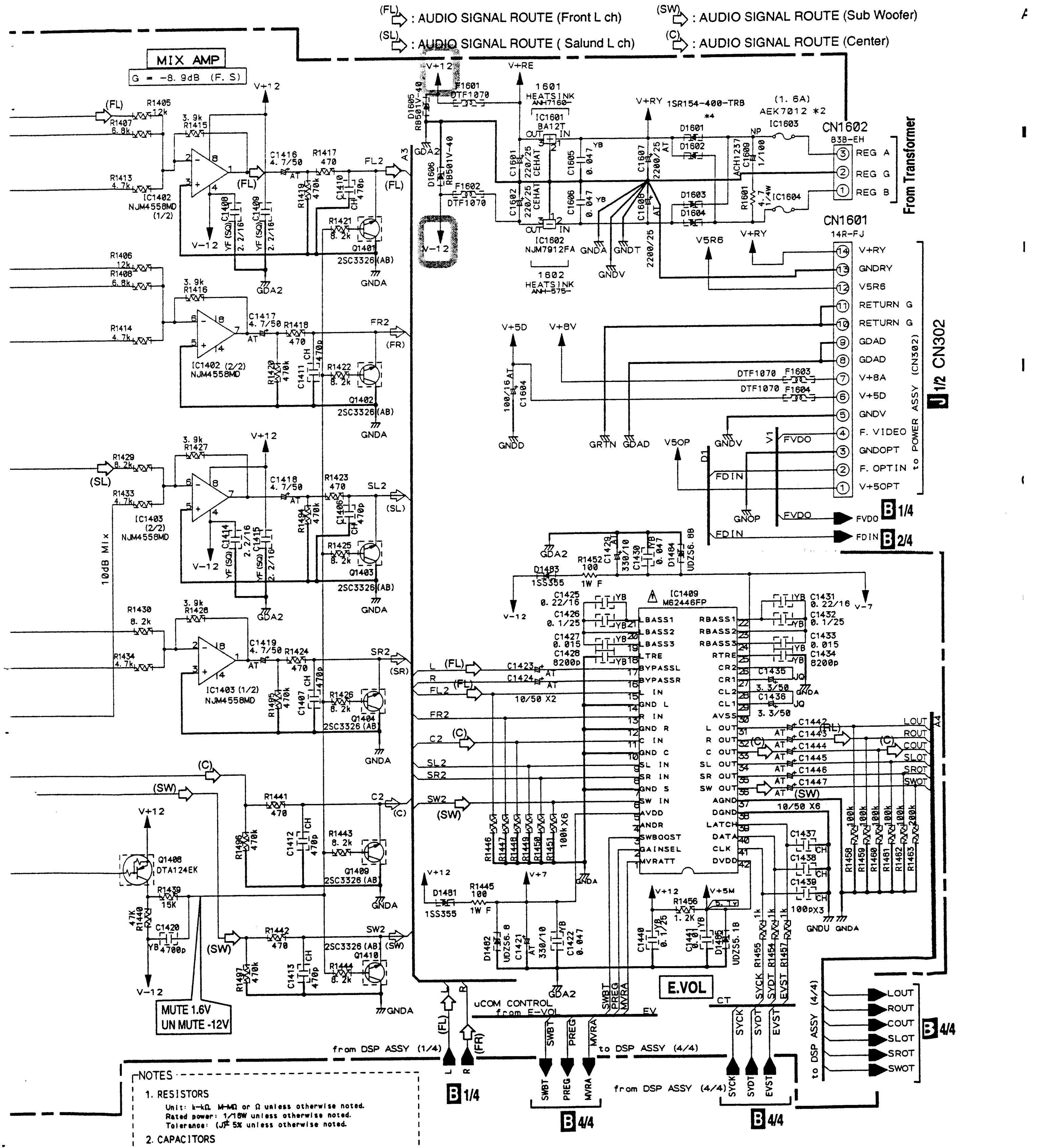
B 2/4


B 3/4
OPT1
OPT2
FDIN
COAX
B 3/4
RIN
LIN
B 1/4
⇨ : AUDIO SIGNAL ROUTE
AUDIO SIGNAL INPUT
A1
V+5V
V5VA
V+8V
F1101 DTF1070
IC1103 NJM78M05FA
C1124 100/16
C1125 0.1/25
C1121 0.1/16
C1122
V+3D
VAK4
VAK1
L1101 QTL1013
C1108 220/10
C1107 220/10
C1106 0.01
C1105 0.01
C1104 470p
C1103 470p
C1102 22p
C1101 22p
C1123 0.01
X1101 VSS1140
R1101 STBY
R1113 0
GNDC
GNDD
VCS1
R1220 330
R1219 330
R1218 330
R1217 4.7k
R1216 4.7k
AUDATA0
AUDATA1
AUDATA2
SDI1
SDI2
SDI3
C1218 470p
C1219 0.01
R1213 33k
C1215 2.2/50
C1216 470p
C1217 0.01
R1212 10k
R1214 3.3K
R1215 5.6K
C1220 0.01
R1209 100
IC1207 (3/3) TC7WU04FU
IC1207 TC7WU04FU(1/3)
R1210 1M
R1211 100
X1201 VSS1086 27.000MHz
C1211 10p CH
C1212 CH10p
VXT1
IC1207 TC7WU04FU (2/3)
C1213 270P CH
C1214 0.01 YB
L1202 QTL1013
CSRT
LRCK
BCLK
SDTO
SDI1
SDI2
SDI3
R1103 100
R1104 100
R1105 100
R1114 4.7
IC1101
AK4586VQ
CODEC
A/D
D/A
XT0
XT1
DVDD
DVSS
TVDD
TX
MCKO
LRCK
BICK
SDTO
SDTI1
SDTI2
SDTI3
INT0
INT1
CDT0
CDTI
CCLK
CSN
OVF
AVSS
AVDD
VREFH
VCOM
DZF1
ROUT1
LOUT1
ROUT2
LOUT2
ROUT3
LOUT3
RIN
LIN
PDN
RX1
I2C
RX2
TST
RX3
SLAVE
RX4
PVSS
R
PVDD
R1112 18k(F)
C1119 470p
C1120 0.01
C1118 220/10
VAK3
R1111 4.7
FR
FL
SR
SL
SW
C
VAK2
C1117 2.2/50
C1116 0.1/16
R1122
L1102 QTL1013
R1121 0
C1113 470p
C1114 0.01
C1115 470/16
AT
Q1101 DTA124EK
V+5D
UNLOCK:5V
LOCK:0V
D-IN
R1106 22k
R1107
Q1102 DTC143EK
C1109
C1112 220p
C1111
C1110
R1110 1k
R1109 1k
R1108 1k
R1254 0
R1253 0
CT
CDPD
ERR
A2
DAC OUT
to DSP ASSY (3/4)
DAR
DAL
DASR
DASL
DALF
DAC
B 3/4
ERR
OVER
CDCS
ABOT
CSRT
CDPD
CDDI
FS96
CSCS
CSCK
CSDO
CSDI
CREQ
SYCK
SYDT
94CS
EXOE
B 4/4
ADMD
B 3/4
to&from DSP ASSY (4/4)
CDDI
FS96
CREQ
CSDI
R1227 330
R1225 330
R1226 330
R1228 330
V+5D
VSH 2
L1204 QTL1013
C1232 10/50
C1231 0.01 YB
C1230 470p CH
IC1206
TC74VHCT244AFT
Level shifter
3V⟶5V
VCC 2G 1Y1 2A4 1Y2 2A3 1Y3 2A2 1Y4 2A1
1G 1A1 2Y4 1A2 2Y3 1A3 2Y2 1A4 2Y1 GND
CDCS
R1261 100
V+5D
Q1261 DTC124EK
Q1262 DTA124EK
R1262 1k
R1263 4.7k
C1262 1/16
OVER
TO μCOM
V+5D
C1239 10/50
C1240 0.01
EXOE
R1246 330
STROBE
SERIALIN
CLOCK
Q1
Q2
Q3
Q4
VSS
VDD
OE
Q5
Q6
Q7
Q8
Q'S
QS
IC1102 BU4094BCF
ADMD
C1241
EXPANDED PORT IC CONTROL
C1131 0.01
C1132 0.01
C1285
C1286
C1287 1/16
C1288 0.1
C1289 0.01
C1290 220p
C1292 220p
C1291 0.1
GNDU
5
6
7
8
A
B
C
D

3.6 DSP(3/4) ASSY


B 3/4 DSP ASSY (AWX8049)
B 2/4
from DSP ASSY (2/4)
CODEC-DAOUT
DAL
DAR
DASL
DASR
DAC
DALF
(FL)
(RL)
(SL)
(C)
(SW)
V+12
V-12
G = +5.41dB
G = +5.54dB
G = +10.2dB
R1301 2.2k
R1303 2.2k
R1305 8.2k
R1307 3.9k
R1320 100
C1301 33/10
C1307 82p CH
C1311 33/10
IC1301 (1/2)
IC1301 (2/2) NJM4558MD
IC1302 (1/2) NJM4558MD
IC1302 (2/2)
IC1303 (1/2) NJM4558MD
IC1303 (2/2) NJM4558MD
C1312 33/10 FR
C1323 33/10
C1324 33/10
C1335 33/10
C1336 100/16
C1331 330p
C1332 820p
R1332 56k
R1333 8.2k
R1318 9.1k
R1320 43k
R1325
R1330 100
GNDC
GDA2
GNDU
IC1401 NJU7313AM
VEE
VDD
FR
FL
SW
NC
ST
DATA
CK
R1401 1K
73CS
C1405 470P
SYCK
SYDT
R1402 1K
R1403 1K
0dB
4dB
10dB Mix
V+3D
ADMD
ERR
DMUT
DAP202K D1401
DAP202K D1402
Q1405 DTA124EK
Q1406 DTA124EK
Q1407 DTC124EK
27K R1453
R1435 1M
R1436 4.7k
R1437 3.3K
R1438 1M
GNDD
from EXPANDER
DIGITAL MUTE BLOCK
uCOM CONTROL
CT
LPF BLOCK
C1349 0.01 YB
from DSP ASSY (2/4)
from DSP ASSY (4/4)
B 2/4
B 4/4

B 3/4


(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(SL) : AUDIO SIGNAL ROUTE (Salund L ch)
(SW) : AUDIO SIGNAL ROUTE (Sub Woofer)
(C) : AUDIO SIGNAL ROUTE (Center)
MIX AMP
G = -8. 9dB (F. S)
10dB Mix
IC1402 NJM4558MD (1/2)
IC1402 (2/2) NJM4558MD
IC1403 (2/2) NJM4558MD
IC1403 (1/2) NJM4558MD
Q1401 2SC3326(AB)
Q1402 2SC3326(AB)
Q1403 2SC3326(AB)
Q1404 2SC3326(AB)
Q1409 2SC3326(AB)
Q1410 2SC3326(AB)
Q1408 DTA124EK
MUTE 1.6V
UN MUTE -12V
FL2
FR2
SL2
SR2
C2
SW2
GNDA
GDA2
V+12
V-12
D1605 RB501V-40
D1606 RB501V-40
F1601 DTF1070
F1602 DTF1070
V+RE
1601 HEATSINK ANH7160
IC1601 BA12T
IC1602 NJM7912FA
1602 HEATSINK ANH-575
V+RY
1SR154-400-TRB
D1601
D1602
D1603
D1604
(1. 6A) AEK7012 *2
IC1603
IC1604
CN1602 B3B-EH
REG A
REG G
REG B
From Transformer
CN1601 14R-FJ
V+RY
GNDRY
V5R6
RETURN G
RETURN G
GDAD
GDAD
V+8A
V+5D
GNDV
F. VIDEO
GNDOPT
F. OPTIN
V+5OPT
to POWER ASSY (CN302)
J 1/2 CN302
DTF1070 F1603
DTF1070 F1604
V+5D
V+8V
GNDD
GRTN
GDAD
V5OP
GNDV
GNOP
FVDO
FDIN
B 1/4
B 2/4
IC1409 M62446FP
LBASS1
LBASS2
LBASS3
LTRE
BYPASSL
BYPASSR
L IN
GND L
R IN
GND R
C IN
GND C
SL IN
SR IN
GND S
SW IN
AVDD
ANDR
SWBOOST
GAINSEL
MVRATT
RBASS1
RBASS2
RBASS3
RTRE
CR2
CR1
CL2
CL1
AVSS
L OUT
R OUT
C OUT
SL OUT
SR OUT
SW OUT
AGND
DGND
LATCH
DATA
CLK
DVDD
E.VOL
LOUT
ROUT
COUT
SLOT
SROT
SWOT
B 4/4
to DSP ASSY (4/4)
from DSP ASSY (1/4)
from DSP ASSY (4/4)
uCOM CONTROL from E-VOL
SWBT
PREG
MVRA
SYCK
SYDT
EVST
CT
EV
GNDU
V+5M
V+7

┌NOTES

1. RESISTORS

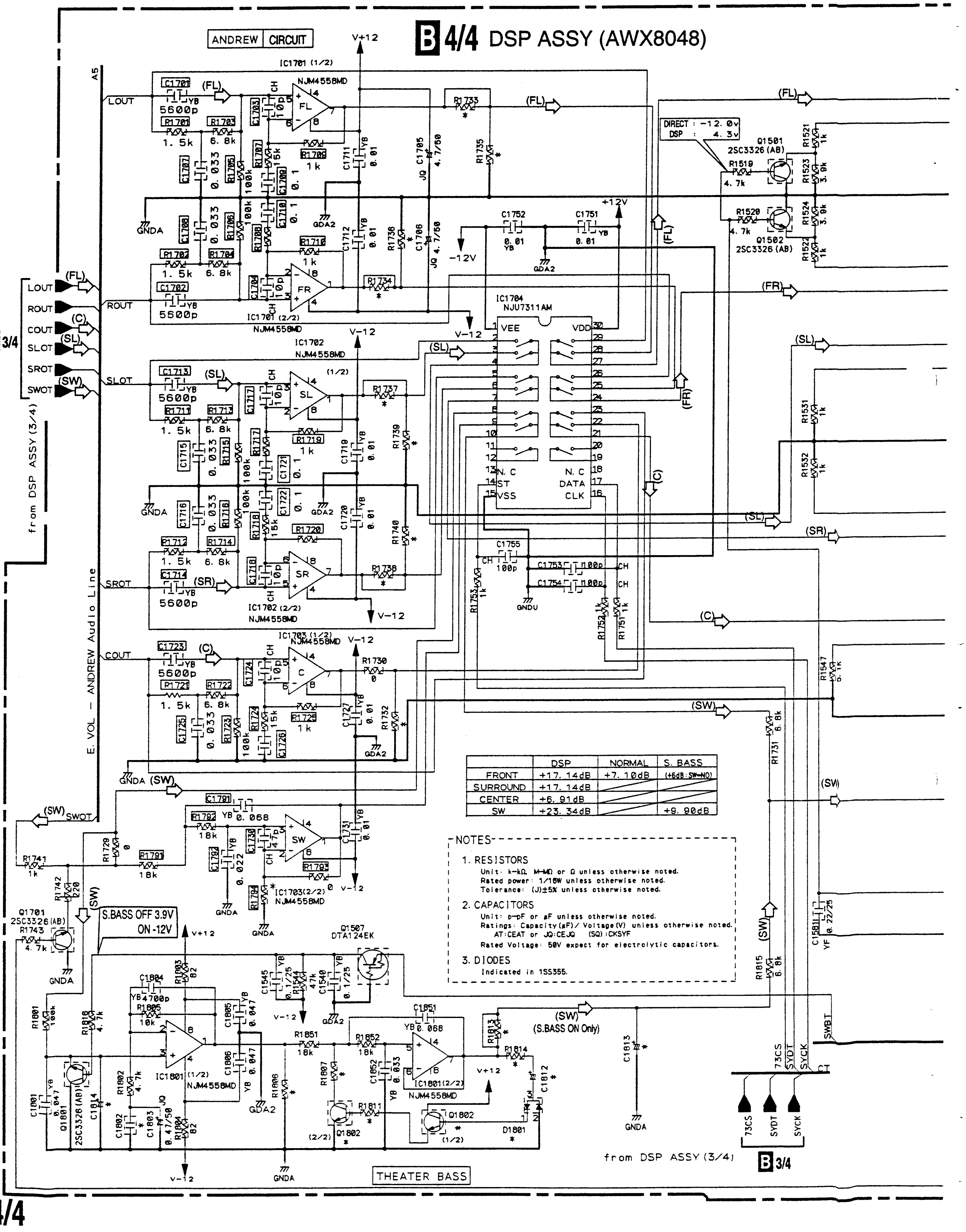
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J)± 5% unless otherwise noted.

2. CAPACITORS

Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
AT:CEAT or JQ:CEJQ
Rated Voltage: 50V expect for electrolytic capacitors.

⬭ : The power supply is shown with the marked box.

3.7 DSP(4/4) ASSY

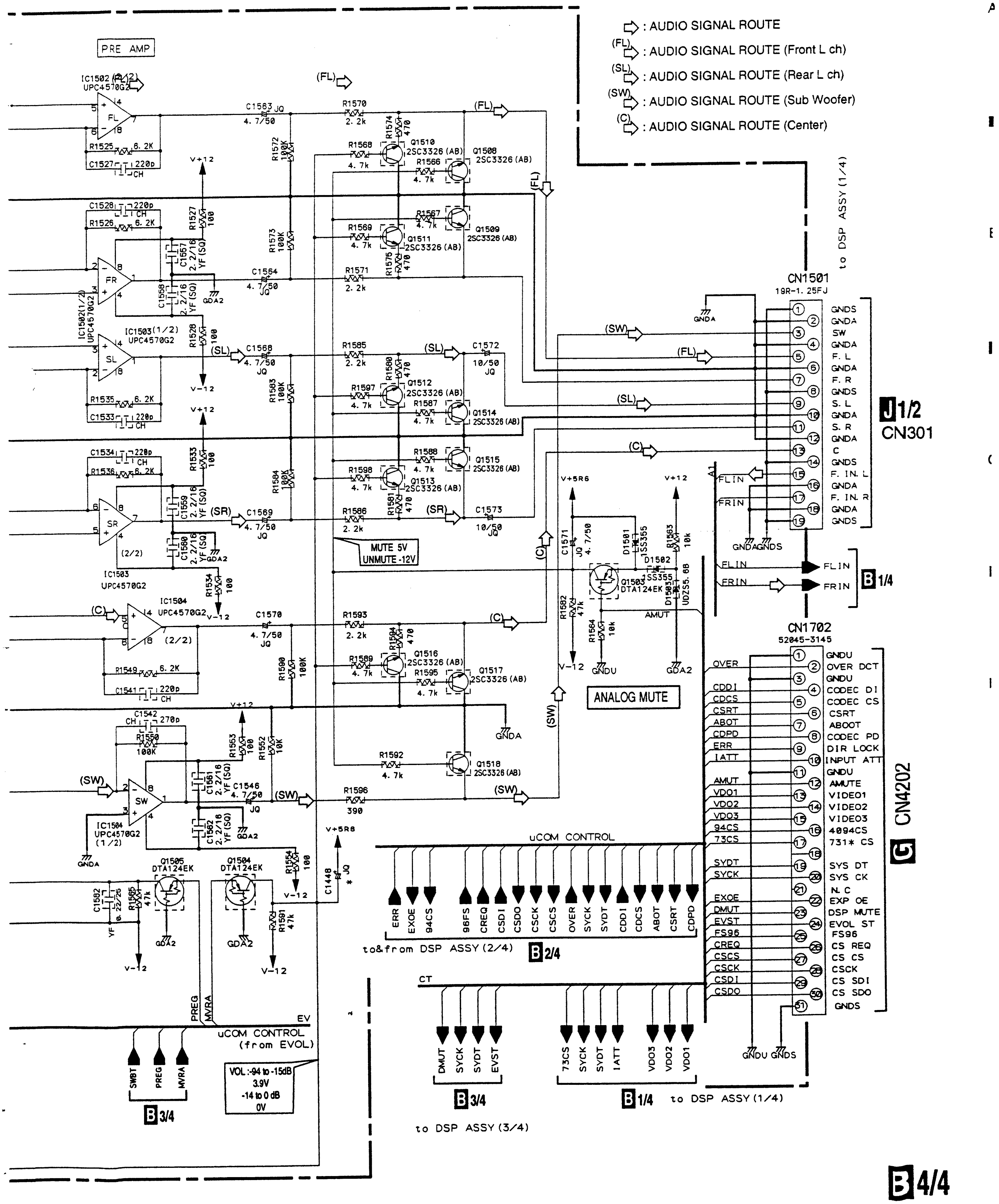

B 4/4 DSP ASSY (AWX8048)
ANDREW CIRCUIT
IC1701 (1/2) NJM4558MD
IC1701 (2/2) NJM4558MD
IC1702 NJM4558MD
IC1702 (2/2) NJM4558MD
IC1703 (1/2) NJM4558MD
IC1703 (2/2) NJM4558MD
IC1704 NJU7311AM
IC1801 (1/2) NJM4558MD
IC1801 (2/2) NJM4558MD
Q1501 2SC3326 (AB)
Q1502 2SC3326 (AB)
Q1701 2SC3326 (AB)
Q1801 2SC3326 (AB)
Q1507 DTA124EK
Q1802
D1801
DIRECT : −12. 0v
DSP : 4. 3v
S.BASS OFF 3.9V ON -12V
(SW) (S.BASS ON Only)
THEATER BASS
LOUT ROUT COUT SLOT SROT SWOT
(FL) (FR) (C) (SL) (SR) (SW)
V+12 V−12 +12V −12V
GNDA GDA2 GNDU
73CS SYDT SYCK SWBT CT
B 3/4
from DSP ASSY (3/4)
E. VOL − ANDREW Audio Line
A5

	DSP	NORMAL	S. BASS
FRONT	+17. 14dB	+7. 10dB	(+6dB : SW→NO)
SURROUND	+17. 14dB		
CENTER	+6. 91dB		
SW	+23. 34dB		+9. 90dB

NOTES

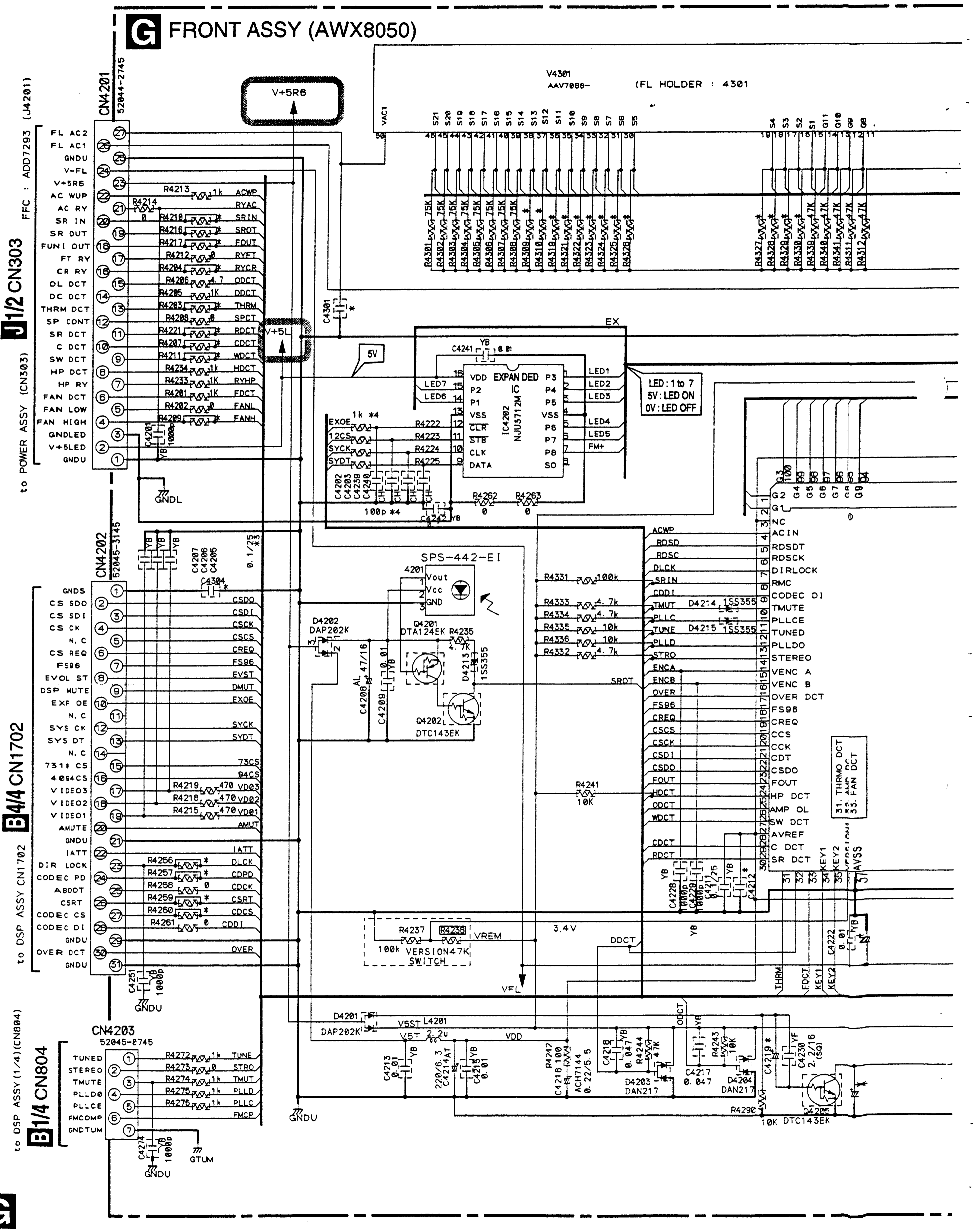
1. RESISTORS
   Unit: k−kΩ, M−MΩ or Ω unless otherwise noted.
   Rated power: 1/16W unless otherwise noted.
   Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
   Unit: p−pF or µF unless otherwise noted.
   Ratings: Capacity(µF)/ Voltage(V) unless otherwise noted.
   AT:CEAT or JQ:CEJQ (SQ) :CKSYF
   Rated Voltage: 50V expect for electrolytic capacitors.
3. DIODES
   Indicated in 1SS355.

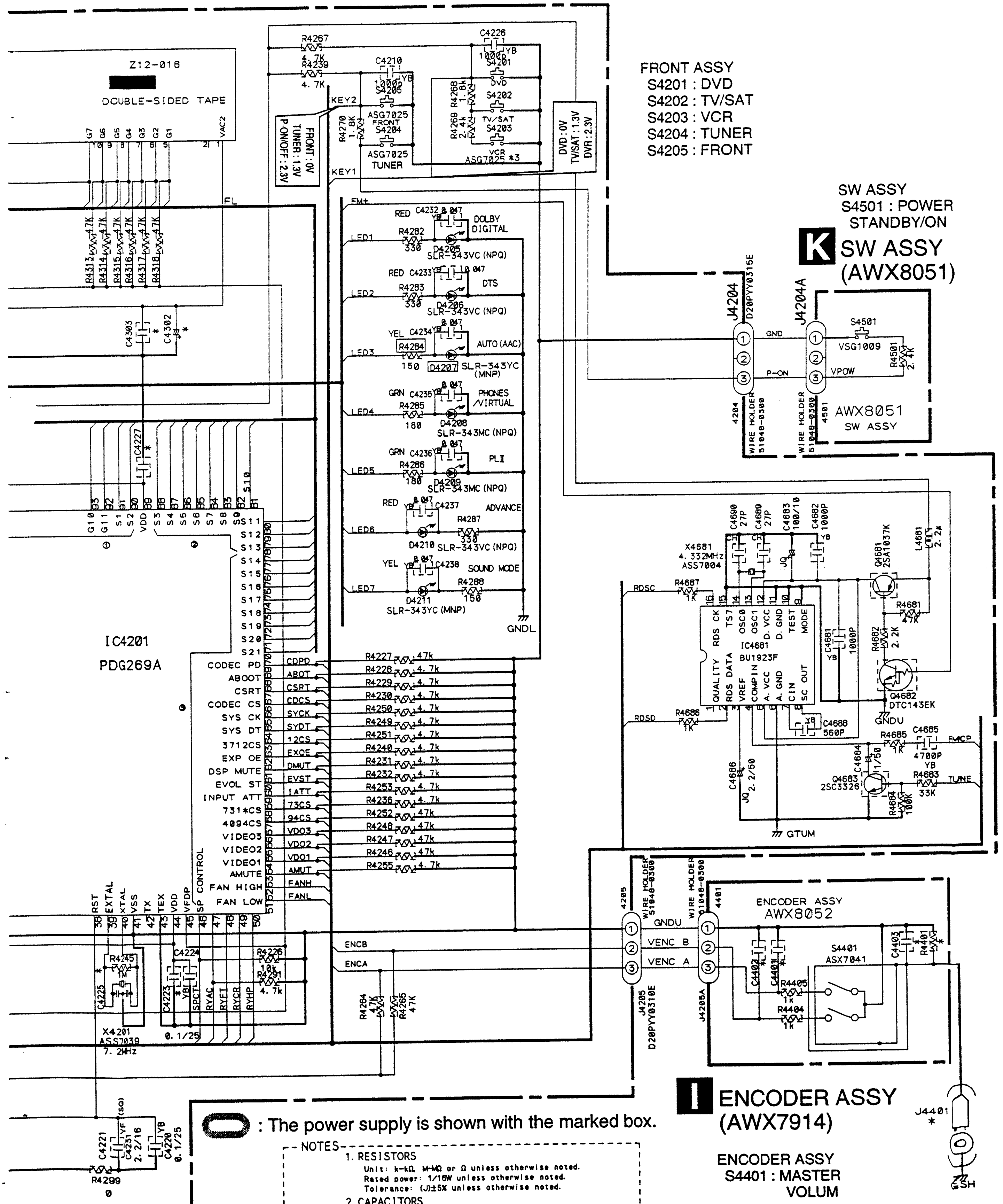
B 4/4


: AUDIO SIGNAL ROUTE
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(SL) : AUDIO SIGNAL ROUTE (Rear L ch)
(SW) : AUDIO SIGNAL ROUTE (Sub Woofer)
(C) : AUDIO SIGNAL ROUTE (Center)
PRE AMP
IC1502(1/2) UPC4570G2
FL
FR
SL
SR
SW
C
R1525 6.2K
C1527 220p CH
C1528 220p CH
R1526 6.2K
C1557 2.2/16 YF (SQ)
C1558 2.2/16 YF (SQ)
R1527 100
R1528 100
V+12
V-12
GDA2
IC1503(1/2) UPC4570G2
IC1503 UPC4570G2 (2/2)
R1535 6.2K
C1533 220p CH
C1534 220p CH
R1536 6.2K
C1559 2.2/16 YF (SQ)
C1560 2.2/16 YF (SQ)
R1533 100
R1534 100
IC1504 UPC4570G2 (2/2)
R1549 6.2K
C1541 220p CH
C1542 270p CH
R1550 100K
C1561 2.2/16 YF (SQ)
C1562 2.2/16 YF (SQ)
C1546 4.7/50 JQ
R1553 100
R1552 10K
IC1504 UPC4570G2 (1/2)
GNDA
C1563 4.7/50 JQ
C1564 4.7/50 JQ
C1568 4.7/50 JQ
C1569 4.7/50 JQ
C1570 4.7/50 JQ
R1572 100K
R1573 100K
R1583 100K
R1584 100K
R1590 100K
R1570 2.2k
R1571 2.2k
R1585 2.2k
R1586 2.2k
R1593 2.2k
R1596 390
R1568 4.7k
R1566 4.7k
R1567 4.7k
R1569 4.7k
R1597 4.7k
R1587 4.7k
R1588 4.7k
R1598 4.7k
R1589 4.7k
R1595 4.7k
R1592 4.7k
R1574 470
R1576 470
R1580 470
R1581 470
R1594 470
Q1510 2SC3326 (AB)
Q1508 2SC3326 (AB)
Q1509 2SC3326 (AB)
Q1511 2SC3326 (AB)
Q1512 2SC3326 (AB)
Q1514 2SC3326 (AB)
Q1515 2SC3326 (AB)
Q1513 2SC3326 (AB)
Q1516 2SC3326 (AB)
Q1517 2SC3326 (AB)
Q1518 2SC3326 (AB)
C1572 10/50 JQ
C1573 10/50 JQ
MUTE 5V UNMUTE -12V
GNDA
V+5R6
C1571 4.7/50 JQ
D1501 1SS355
D1502 1SS355
D1503 UDZS5.6B
R1563 10k
R1582 47k
R1564 10k
Q1503 DTA124EK
AMUT
GNDU
GDA2
ANALOG MUTE
Q1505 DTA124EK
Q1504 DTA124EK
R1554 100
C1448 * JQ
R1591 47k
C1582 0.22/25 YF
R1565 47k
PREG
MVRA
EV
uCOM CONTROL (from EVOL)
VOL: -94 to -15dB 3.9V
-14 to 0 dB 0V
SWBT
PREG
MVRA
B 3/4
uCOM CONTROL
ERR EXOE 94CS
96FS CREQ CSDI CSDO CSCK CSCS OVER SYCK SYDT CDDI CDCS ABOT CSRT CDPD
to&from DSP ASSY (2/4)
B 2/4
CT
DMUT SYCK SYDT EVST
B 3/4
to DSP ASSY (3/4)
73CS SYCK SYDT IATT
VDO3 VDO2 VDO1
B 1/4
to DSP ASSY (1/4)
to DSP ASSY (1/4)
CN1501 19R-1.25FJ
1 GNDS
2 GNDA
3 SW
4 GNDA
5 F.L
6 GNDA
7 F.R
8 GNDS
9 S.L
10 GNDA
11 S.R
12 GNDA
13 C
14 GNDS
15 F.IN.L
16 GNDA
17 F.IN.R
18 GNDA
19 GNDS
J 1/2 CN301
A1
FLIN
FRIN
GNDA GNDS
B 1/4
CN1702 52045-3145
1 GNDU
2 OVER DCT
3 GNDU
4 CODEC DI
5 CODEC CS
6 CSRT
7 ABOT
8 CODEC PD
9 DIR LOCK
10 INPUT ATT
11 GNDU
12 AMUTE
13 VIDEO1
14 VIDEO2
15 VIDEO3
16 4094CS
17 731* CS
18
19 SYS DT
20 SYS CK
21 N.C
22 EXP OE
23 DSP MUTE
24 EVOL ST
25 FS96
26 CS REQ
27 CS CS
28 CSCK
29 CS SDI
30 CS SDO
31 GNDS
OVER CDDI CDCS CSRT ABOT CDPD ERR IATT AMUT VDO1 VDO2 VDO3 94CS 73CS SYDT SYCK EXOE DMUT EVST FS96 CREQ CSCS CSCK CSDI CSDO
G CN4202
GNDU GNDS

B 4/4

3.8 FRONT, ENCODER and SW ASSYS


G FRONT ASSY (AWX8050)
V4301
AAV7088-
(FL HOLDER : 4301
CN4201
52044-2745
FFC : ADD7293 (J4201)
J1/2 CN303
to POWER ASSY (CN303)
FL AC2
FL AC1
GNDU
V-FL
V+5R6
AC WUP
AC RY
SR IN
SR OUT
FUNI OUT
FT RY
CR RY
OL DCT
DC DCT
THRM DCT
SP CONT
SR DCT
C DCT
SW DCT
HP DCT
HP RY
FAN DCT
FAN LOW
FAN HIGH
GNDLED
V+5LED
GNDU
V+5R6
V+5L
5V
EX
C4241
IC4202
NJU3712M
EXPAN DED IC
LED : 1 to 7
5V : LED ON
0V : LED OFF
GNDL
CN4202
52045-3145
B4/4 CN1702
to DSP ASSY CN1702
GNDS
CS SDO
CS SDI
CS CK
N. C
CS REQ
FS96
EVOL ST
DSP MUTE
EXP OE
SYS CK
SYS DT
731* CS
4094CS
VIDEO3
VIDEO2
VIDEO1
AMUTE
IATT
DIR LOCK
CODEC PD
ABOOT
CSRT
CODEC CS
CODEC DI
OVER DCT
SPS-442-EI
Q4201
DTA124EK
Q4202
DTC143EK
D4202
DAP202K
D4213
1SS355
D4214 1SS355
D4215 1SS355
R4237
R4238
100k VERSION47K
SWITCH
VREM
3.4V
DDCT
VFL
CN4203
52045-0745
B1/4 CN804
to DSP ASSY (1/4)(CN804)
TUNED
STEREO
TMUTE
PLLDO
PLLCE
FMCOMP
GNDTUM
GTUM
GNDU
D4201
DAP202K
L4201
V5ST
V5T
VDD
ACH7144
D4203 DAN217
D4204 DAN217
Q4205
10K DTC143EK
NC
ACIN
RDSDT
RDSCK
DIRLOCK
RMC
CODEC DI
TMUTE
PLLCE
TUNED
PLLDO
STEREO
VENC A
VENC B
OVER DCT
FS96
CREQ
CCS
CCK
CDT
CSDO
FOUT
HP DCT
AMP OL
SW DCT
AVREF
C DCT
SR DCT
31. THRMO DCT
32. AMP DC
33. FAN DCT


Z12-016
DOUBLE-SIDED TAPE
IC4201
PDG269A
R4267 4.7K
R4239 4.7K
C4210 1000p
C4226 1000p
S4201 DVD
S4202
S4203 VCR
S4204 TUNER
S4205 FRONT
ASG7025
R4268 1.8k
R4269 2.4k
R4270 1.8K
KEY1
KEY2
FRONT:0V
TUNER:1.3V
P-ON/OFF:2.3V
DVD:0V
TV/SAT:1.3V
DVR:2.3V
FM+
LED1
LED2
LED3
LED4
LED5
LED6
LED7
DOLBY DIGITAL
DTS
AUTO (AAC)
PHONES /VIRTUAL
PLII
ADVANCE
SOUND MODE
D4205 SLR-343VC (NPQ)
D4206 SLR-343VC (NPQ)
D4207 SLR-343YC (MNP)
D4208 SLR-343MC (NPQ)
D4209 SLR-343MC (NPQ)
D4210 SLR-343VC (NPQ)
D4211 SLR-343YC (MNP)
GNDL
CODEC PD
ABOOT
CSRT
CODEC CS
SYS CK
SYS DT
3712CS
EXP OE
DSP MUTE
EVOL ST
INPUT ATT
731*CS
4094CS
VIDEO3
VIDEO2
VIDEO1
AMUTE
FAN HIGH
FAN LOW
X4201 ASS7039 7.2MHz
ENCB
ENCA
J4204 D20PYY0316E
J4204A
GND
P-ON
S4501 VSG1009
VPOW
R4501 2.4K
AWX8051 SW ASSY
WIRE HOLDER 51048-0300
X4681 4.332MHz ASS7004
IC4681 BU1923F
Q4681 2SA1037K
Q4682 DTC143EK
Q4683 2SC3326
L4681 2.2μ
RDSC
RDSD
GNDU
GTUM
FMCP
TUNE
J4205 D20PYY0310E
J4205A
4205
4401
VENC B
VENC A
ENCODER ASSY AWX8052
S4401 ASX7041
J4401
GSH

FRONT ASSY
S4201 : DVD
S4202 : TV/SAT
S4203 : VCR
S4204 : TUNER
S4205 : FRONT

SW ASSY
S4501 : POWER
STANDBY/ON

K SW ASSY (AWX8051)

I ENCODER ASSY (AWX7914)

ENCODER ASSY
S4401 : MASTER
VOLUM

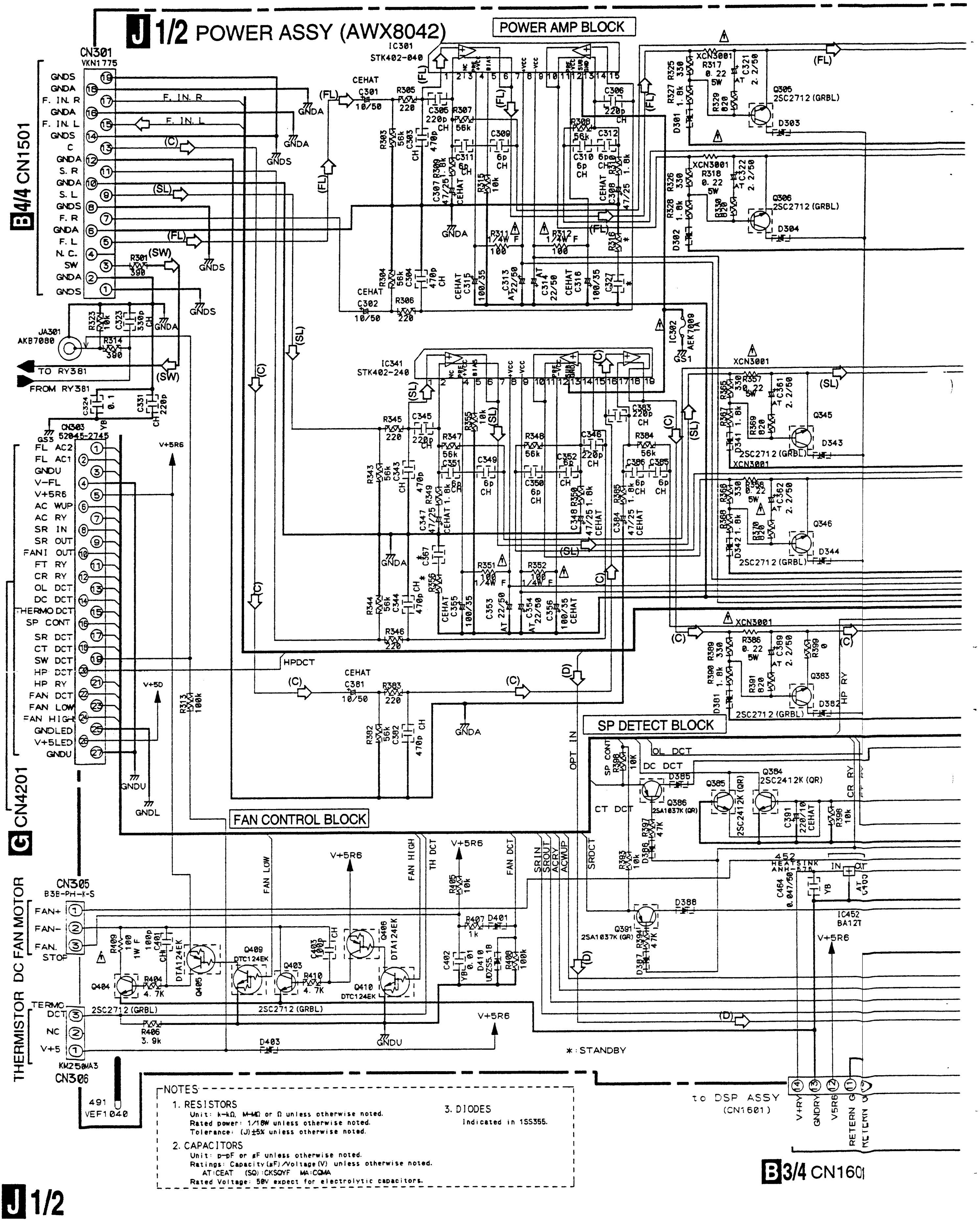
: The power supply is shown with the marked box.

NOTES

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/16W unless otherwise noted.
   Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   AL:CEAL or JQ:CEJQ
   Rated Voltage: 50V expect for electrolytic capacitors.
3. DIODES
   Indicated in 1SS355.

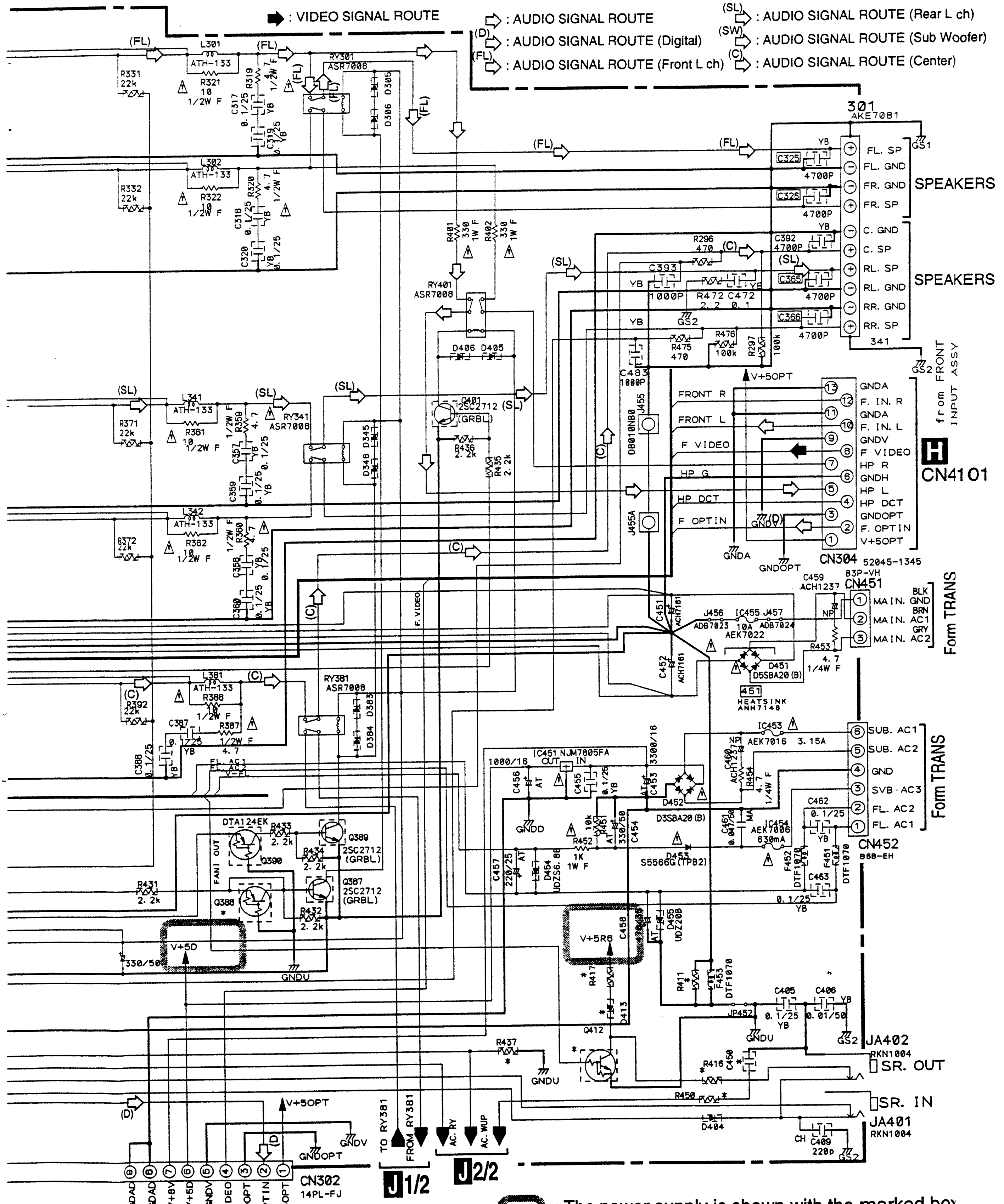
G I K

3.9 POWER(1/2) ASSY


J 1/2 POWER ASSY (AWX8042)
POWER AMP BLOCK
CN301 VKN1775
B 4/4 CN1501
GNDS
GNDA
F. IN. R
GNDA
F. IN. L
GNDS
C
GNDA
S. R
GNDA
S. L
GNDS
F. R
GNDA
F. L
N. C.
SW
GNDA
GNDS
IC301 STK402-040
CEHAT C301 10/50
R305 220
R303 56k
C303 470p CH
C305 220p CH
R307 56k
C309 6p CH
C311 6p CH
R309 1.8k
C307 47/25 CEHAT
R315 10k
R311 1/4W F 100
R312 1/4W F 100
R308 56k
C306 220p CH
C310 6p CH
C312 6p CH
R310 1.8k
C308 47/25 CEHAT
R316
C313 22/50
C314 22/50
C315 100/35 CEHAT
C316 100/35 CEHAT
C327
R304 56k
C304 470p CH
CEHAT C302 10/50
R306 220
R301 390
R323 10k
C323 330p CH
JA301 AKB7080
R314 390
TO RY381
FROM RY381
C324 0.1
C331 220p CH
GS3
CN303 52045-2745
FL AC2
FL AC1
GNDU
V-FL
V+5R6
AC WUP
AC RY
SR IN
SR OUT
FAN1 OUT
FT RY
CR RY
OL DCT
DC DCT
THERMO DCT
SP CONT
SR DCT
CT DCT
SW DCT
HP DCT
HP RY
FAN DCT
FAN LOW
FAN HIGH
GNDLED
V+5LED
GNDU
G CN4201
V+5R6
V+5D
R313 100k
GNDU
GNDL
IC341 STK402-240
R345 220
C345 220p CH
R347 56k
R355 10k
C351 6p
C349 6p
R343 56k
C343 470p CH
R349 1.8k
C347 47/25 CEHAT
C367
R356
R351 1/4W F
R352 1/4W F
R344 56k
C344 470p CH
C355 100/35 CEHAT
C353 22/50
C354 22/50
C356 100/35 CEHAT
R346 220
R348 56k
C346 220p CH
C350 6p CH
C352 6p CH
R350 1.8k
C348 47/25 CEHAT
C383 220p CH
R384 56k
C386 6p CH
C385 6p CH
R385 1.8k
C384 47/25 CEHAT
HPDCT
CEHAT C381 10/50
R383 220
R382 56k
C382 470p CH
IC302 AEK7009 1A
GS1
XCN3001
R317 0.22 5W
R325 330
R327 1.8k
R329 820
C321 2.2/50
Q305 2SC2712 (GRBL)
D301
D303
R318 0.22 5W
R326 330
R328 1.8k
R330 820
C322 2.2/50
Q306 2SC2712 (GRBL)
D302
D304
R357 0.22 5W
R365 330
R367 1.8k
R369 820
C361 2.2/50
Q345
D341
D343
2SC2712 (GRBL)
R358 0.22 5W
R366 330
R368 1.8k
R370 820
C362 2.2/50
Q346
D342
D344
R386 0.22 5W
R389 330
R390 1.8k
R391 820
C389 2.2/50
R399 0
Q383
D381
D382
HP RY
SP DETECT BLOCK
OPT IN
SP CONT
R398 10k
OL DCT
DC DCT
D385
Q385
Q384 2SC2412K (QR)
Q386 2SA1037K (QR)
CT DCT
R397 4.7K
D386
R393
C391 220/10 CEHAT
R396 10k
CR RY
452 HEATSINK AZH-575
C464 0.047/50
YB
IC452 BA12T
IN OUT
AT
V+5R6
D388
Q391 2SA1037K (GR)
R394 4.7K
D387
FAN CONTROL BLOCK
FAN LOW
FAN HIGH
TH DCT
FAN DCT
SRIN
SROUT
ACRY
ACWUP
SRDCT
V+5R6
R405 10k
R407 1k
D401
D410 UDZS5.1B
C402 0.01 YB
R408 100k
CN305 B3B-PH-K-S
FAN+
FAN-
FAN. STOP
DC FAN MOTOR
R409 100 1W F
C401 100p CH
Q405 DTA124EK
Q409 DTC124EK
Q403
C403 100p CH
Q406 DTA124EK
Q404
R404 4.7K
R410 4.7K
Q410 DTC124EK
2SC2712 (GRBL)
THERMISTOR
TERMO DCT
NC
V+5
R406 3.9k
D403
GNDU
V+5R6
KM250MA3
CN306
491 VEF1040
*: STANDBY
to DSP ASSY (CN1601)
V+RY
GNDRY
V5R6
RETERN G
B 3/4 CN1601

NOTES
1. RESISTORS
Unit: k→kΩ, M→MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
Unit: p→pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
AT:CEAT (SQ):CKSQYF MA:CQMA
Rated Voltage: 50V expect for electrolytic capacitors.
3. DIODES
Indicated in 1SS355.

J 1/2


: VIDEO SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
(D) : AUDIO SIGNAL ROUTE (Digital)
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(SL) : AUDIO SIGNAL ROUTE (Rear L ch)
(SW) : AUDIO SIGNAL ROUTE (Sub Woofer)
(C) : AUDIO SIGNAL ROUTE (Center)
301 AKE7081
FL. SP
FL. GND
FR. GND
FR. SP
SPEAKERS
C. GND
C. SP
RL. SP
RL. GND
RR. GND
RR. SP
SPEAKERS
341
from FRONT INPUT ASSY
GNDA
F. IN. R
GNDA
F. IN. L
GNDV
F VIDEO
HP R
GNDH
HP L
HP DCT
GNDOPT
F. OPTIN
V+5OPT
H CN4101
CN304 52045-1345
C459 ACH1237
B3P-VH CN451
MAIN. GND
MAIN. AC1
MAIN. AC2
Form TRANS
IC455 10A AEK7022
D451 D5SBA20 (B)
451 HEATSINK ANH7148
IC453 AEK7016 3.15A
SUB. AC1
SUB. AC2
GND
SVB·AC3
FL. AC2
FL. AC1
CN452 B8B-EH
Form TRANS
IC451 NJM7805FA
D452 D3SBA20 (B)
IC454 AEK7006 630mA
D453 S5566G (TPB2)
V+5R6
V+5D
Q412
JA402 RKN1004
SR. OUT
SR. IN
JA401 RKN1004
RY301 ASR7008
RY401 ASR7008
RY341 ASR7008
RY381 ASR7008
Q401 2SC2712 (GRBL)
Q389 2SC2712 (GRBL)
Q387 2SC2712 (GRBL)
DTA124EK Q390
Q388
GNDU
GDAD
GDAD
V+8V
V+5D
GNDV
F. VIDEO
GNDOPT
F. OPTIN
V+5OPT
CN302 14PL-FJ
TO RY381
FROM RY381
AC. RY
AC. WUP
J 1/2
J 2/2

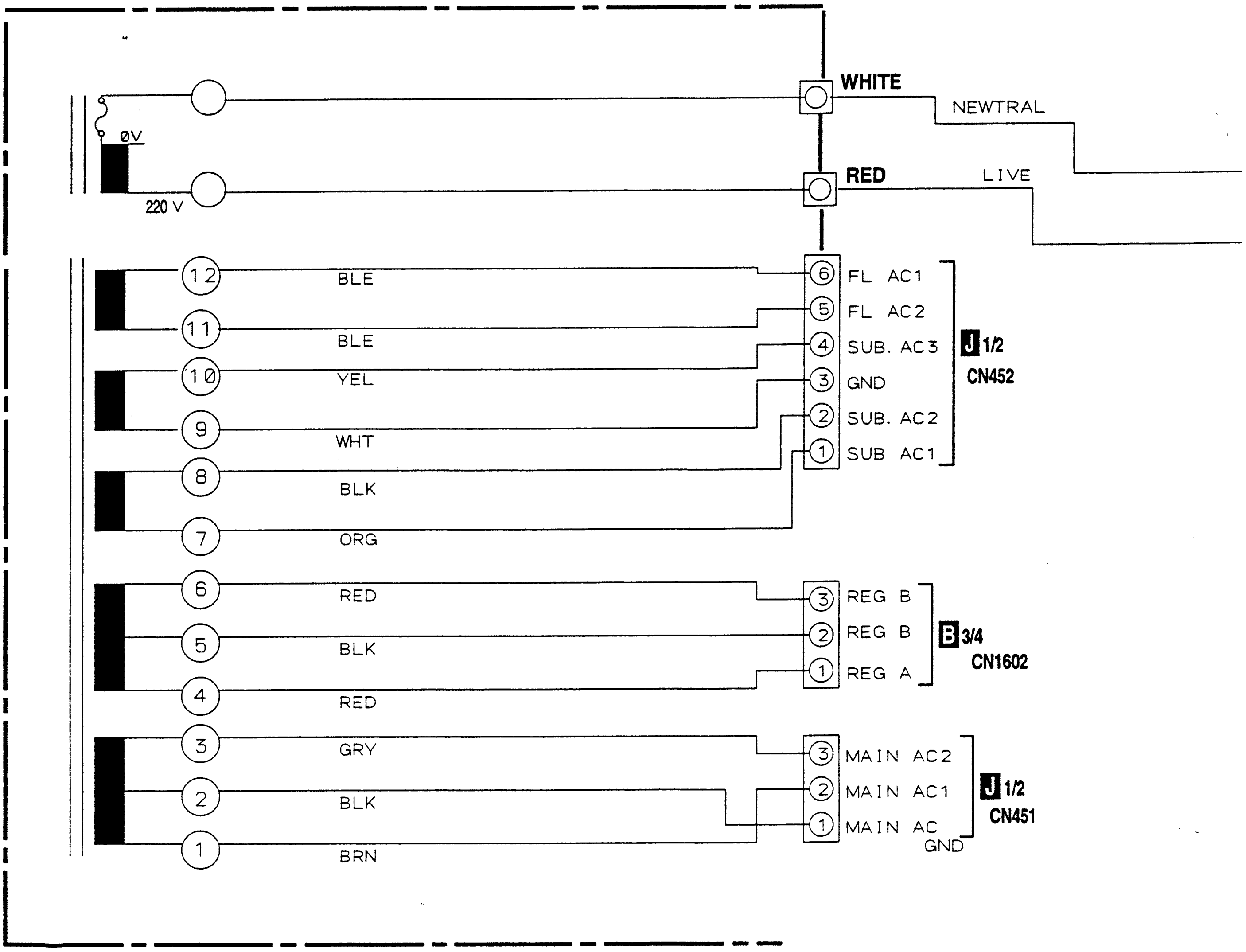
: The power supply is shown with the marked box

B 3/4 CN1601

J 1/2

3.10 POWER(2/2) and TORANS ASSYS

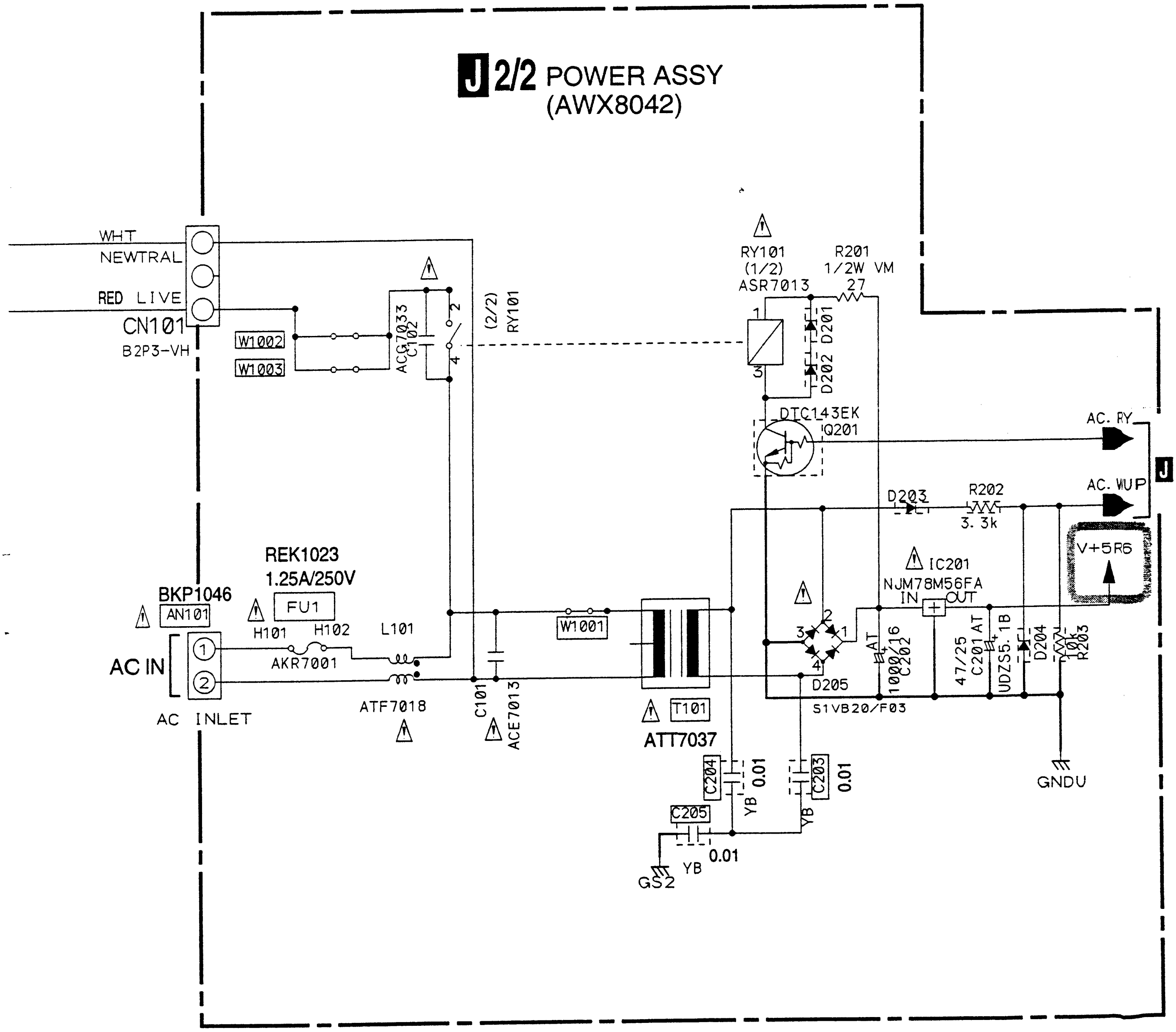
POWER TRANSFORMER
Secon Dary


0V
220 V
WHITE
NEWTRAL
RED
LIVE
12 BLE
11 BLE
10 YEL
9 WHT
8 BLK
7 ORG
6 RED
5 BLK
4 RED
3 GRY
2 BLK
1 BRN
6 FL AC1
5 FL AC2
4 SUB. AC3
3 GND
2 SUB. AC2
1 SUB AC1
J 1/2
CN452
3 REG B
2 REG B
1 REG A
B 3/4
CN1602
3 MAIN AC2
2 MAIN AC1
1 MAIN AC GND
J 1/2
CN451

NOTE

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/16W unless otherwise noted.
   Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.
   AT:CEAT
3. DIODES
   Indicated in 1SS355-TRB.

J 2/2 POWER ASSY (AWX8042)


WHT
NEWTRAL
RED LIVE
CN101
B2P3-VH
W1002
W1003
ACG7033
C102
2
4
(2/2)
RY101
RY101
(1/2)
ASR7013
R201
1/2W VM
27
1
3
D201
D202
DTC143EK
Q201
AC. RY
J 1/2
AC. WUP
D203
R202
3. 3k
V+5R6
IC201
NJM78M56FA
IN
OUT
REK1023
1.25A/250V
FU1
BKP1046
AN101
H101
H102
L101
AKR7001
AC IN
1
2
AC INLET
ATF7018
C101
ACE7013
W1001
T101
ATT7037
2
3
1
4
D205
S1VB20/F03
AT
1000/16
C202
47/25
C201 AT
UDZS5. 1B
D204
10k
R203
GNDU
C204
0.01
YB
C203
0.01
YB
C205
0.01
YB
GS2

• NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

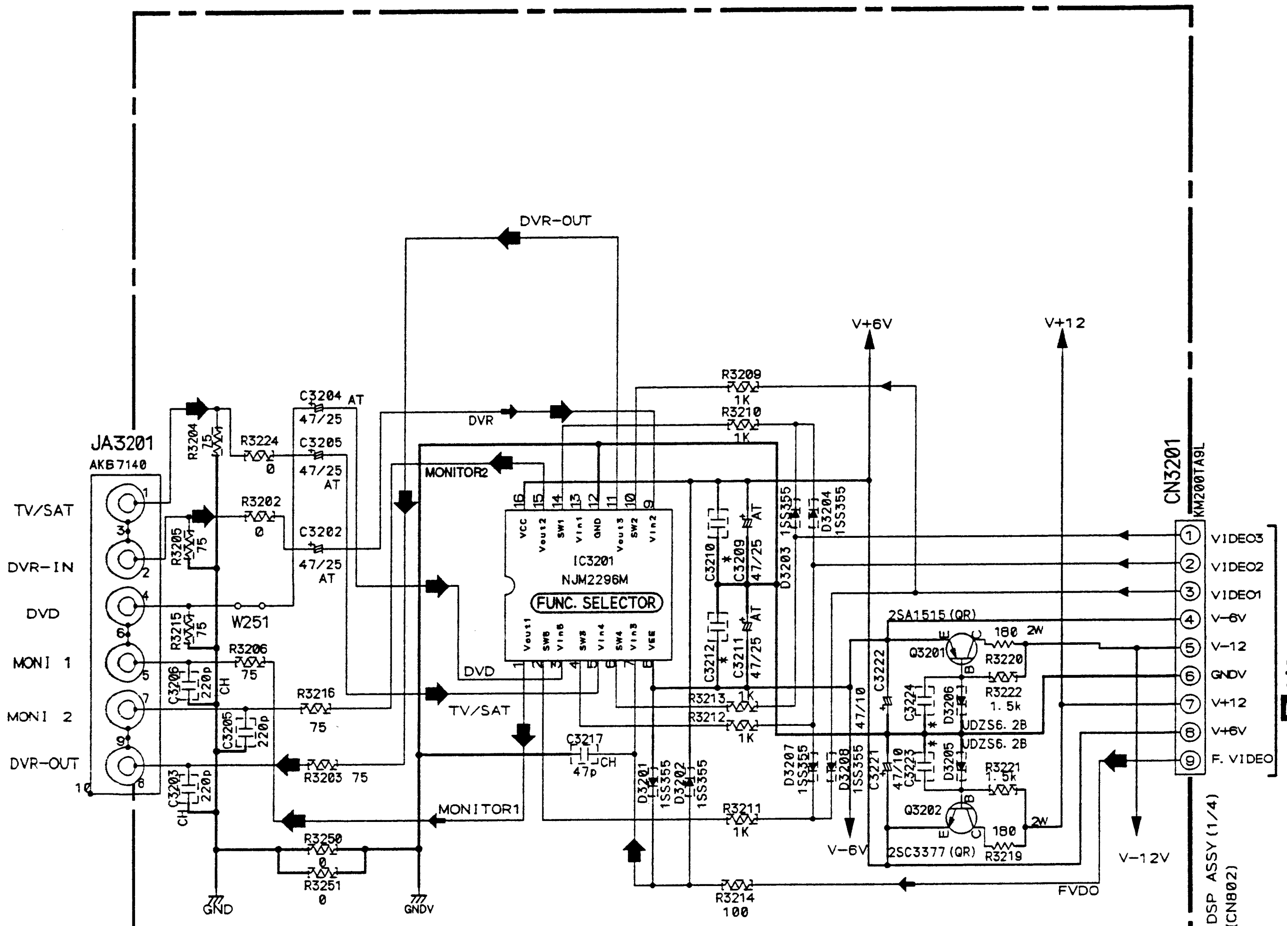
▭ : The power supply is shown with the marked box.

J 2/2

3.11 VIDEO ASSY

E VIDEO ASSY (AWX8047)

➡ : VIDEO SIGNAL ROUTE


DVR-OUT
V+6V
V+12
R3209
1K
R3210
1K
C3204 AT
47/25
C3205
47/25
AT
C3202
47/25
AT
R3224
0
R3202
0
R3204
75
R3205
75
R3215
75
W251
R3206
75
R3216
75
R3203 75
R3250
0
R3251
0
C3206 220p CH
C3205 220p CH
C3203 220p CH
JA3201
AKB7140
TV/SAT
DVR-IN
DVD
MONI 1
MONI 2
DVR-OUT
GND
GNDV
DVR
MONITOR2
MONITOR1
DVD
TV/SAT
IC3201
NJM2296M
FUNC. SELECTOR
VCC
Vout2
SW1
Vin1
GND
Vout3
SW2
Vin2
Vout1
SW8
Vin5
SW3
Vin4
SW4
Vin3
VEE
C3217
47p
CH
C3210
C3209
47/25
AT
C3212
C3211
47/25
AT
D3203 1SS355
D3204 1SS355
D3201 1SS355
D3202 1SS355
R3213 1K
R3212 1K
R3211
1K
R3214
100
D3207 1SS355
D3208 1SS355
C3222
47/10
C3221
C3224
C3223
47/10
D3206
D3205
UDZS6. 2B
UDZS6. 2B
2SA1515 (QR)
Q3201
180 2W
R3220
R3222
1.5k
R3221
1.5k
Q3202
2SC3377 (QR)
180
2W
R3219
V-6V
V-12V
FVDO
CN3201
KM200TA9L
1 VIDEO3
2 VIDEO2
3 VIDEO1
4 V-6V
5 V-12
6 GNDV
7 V+12
8 V+6V
9 F. VIDEO
B1/4 CN802
from DSP ASSY (1/4)
(CN802)

NJM2296M control port

VIDEO1	VIDEO2	VIDEO3	MONI1	MONI2	DVR-OUT
H	L	L	VIDEO	mute	VIDEO
L	H	L	DVR	DVR	mute
H	H	L	FRONT	FRONT	FRONT
H	L	H	TV/SAT	TV/SAT	TV/SAT
H	H	H	DVD	DVD	DVD

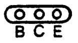
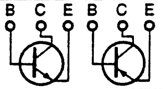
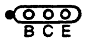
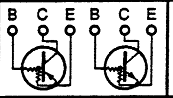
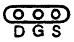
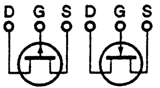
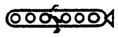
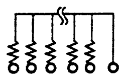
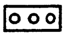
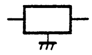
NOTE

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/16W unless otherwise noted.
   Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.
   AT:CEAT or AL:CEAL
3. DIODES
   Indicated in 1SS355-TRB

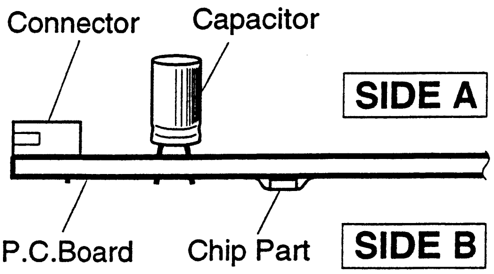
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

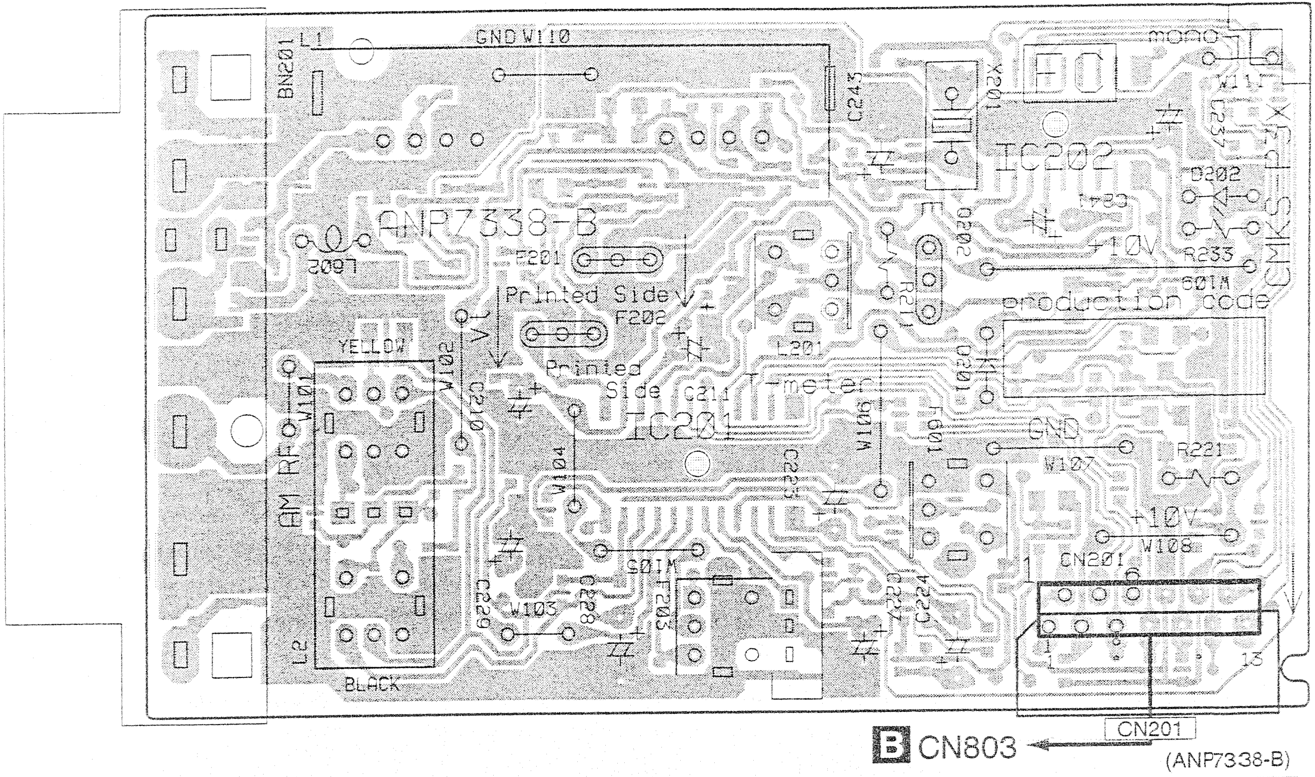

Connector
Capacitor
SIDE A
P.C.Board
Chip Part
SIDE B

4.1 FM/AM TUNER MODULE

SIDE B

SIDE A

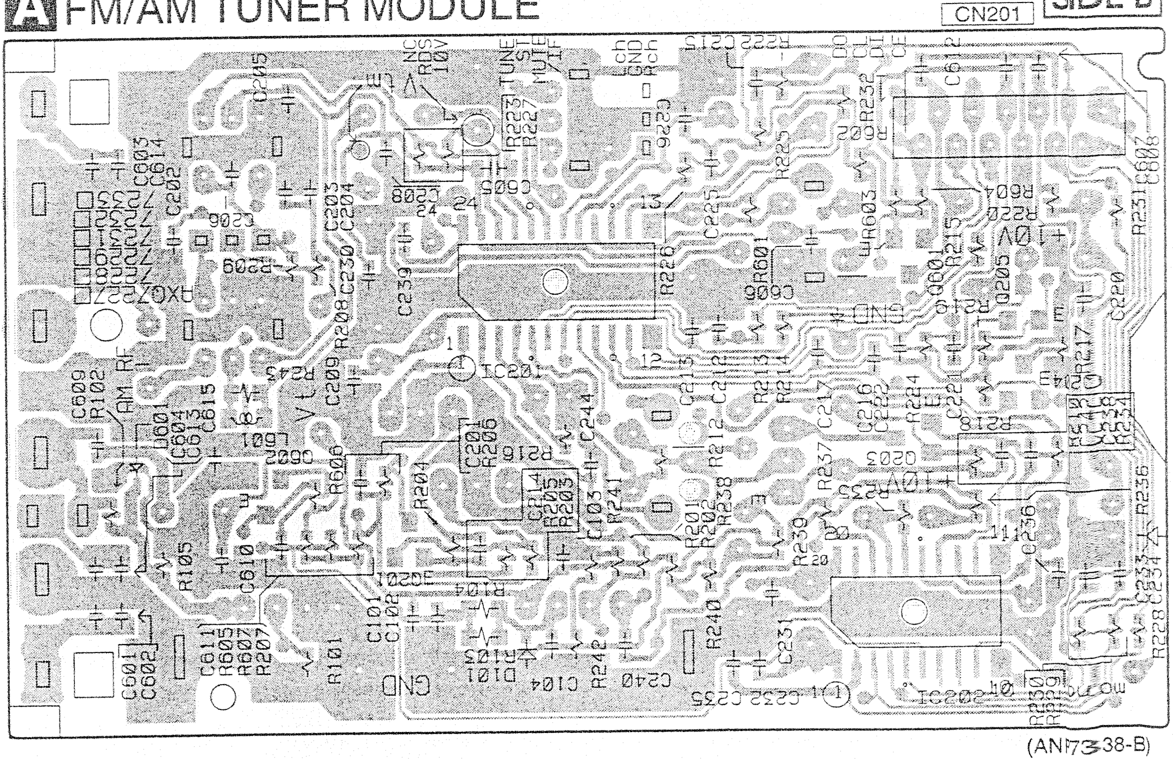
A FM/AM TUNER MODULE


BN201
L1
GND W110
C243
102X
IC202
mono
W111
D202
ANP7338-B
2091
F201
Printed Side
F202
Vt
YELLOW
W102
W101
Printed Side
C211
IC201
T-meter
L301
W106
production code
+10V
R233
R221
AM RF
W104
GND
W107
+10V
W108
CN201
1
6
13
W105
W103
L2
BLACK
CMKS-P3X
CN201
B CN803
(ANP7338-B)

Q202

A FM/AM TUNER MODULE

SIDE B


CN201
NC
RDS
10V
TUNE
ST
MUTE
/IF
Lch
GND
Rch
DO
CL
DI
CE
C612
C607
C608
C205
C203
C204
C230
C239
R223
R227
R226
R225
R232
R604
R220
R215
+10V
Q205
Q601
R214
C220
R231
AM RF
C609
R102
IC201
1
12
13
24
C244
R243
C209
Vt
R208
R209
GND
C613
C615
C604
J601
R606
R204
C201
R206
R216
C214
R205
R203
C103
R241
C213
C212
R213
R214
C217
C216
C222
R224
R218
R237
R236
Q203
+10V
R105
C610
Q201
C101
C102
R104
R103
D101
R101
C611
R605
R607
R207
C601
C602
GND
C104
R242
C240
R240
C231
R230
C232
C235
IC202
1
10
11
20
C233
C234
R228
(ANP7338-B)

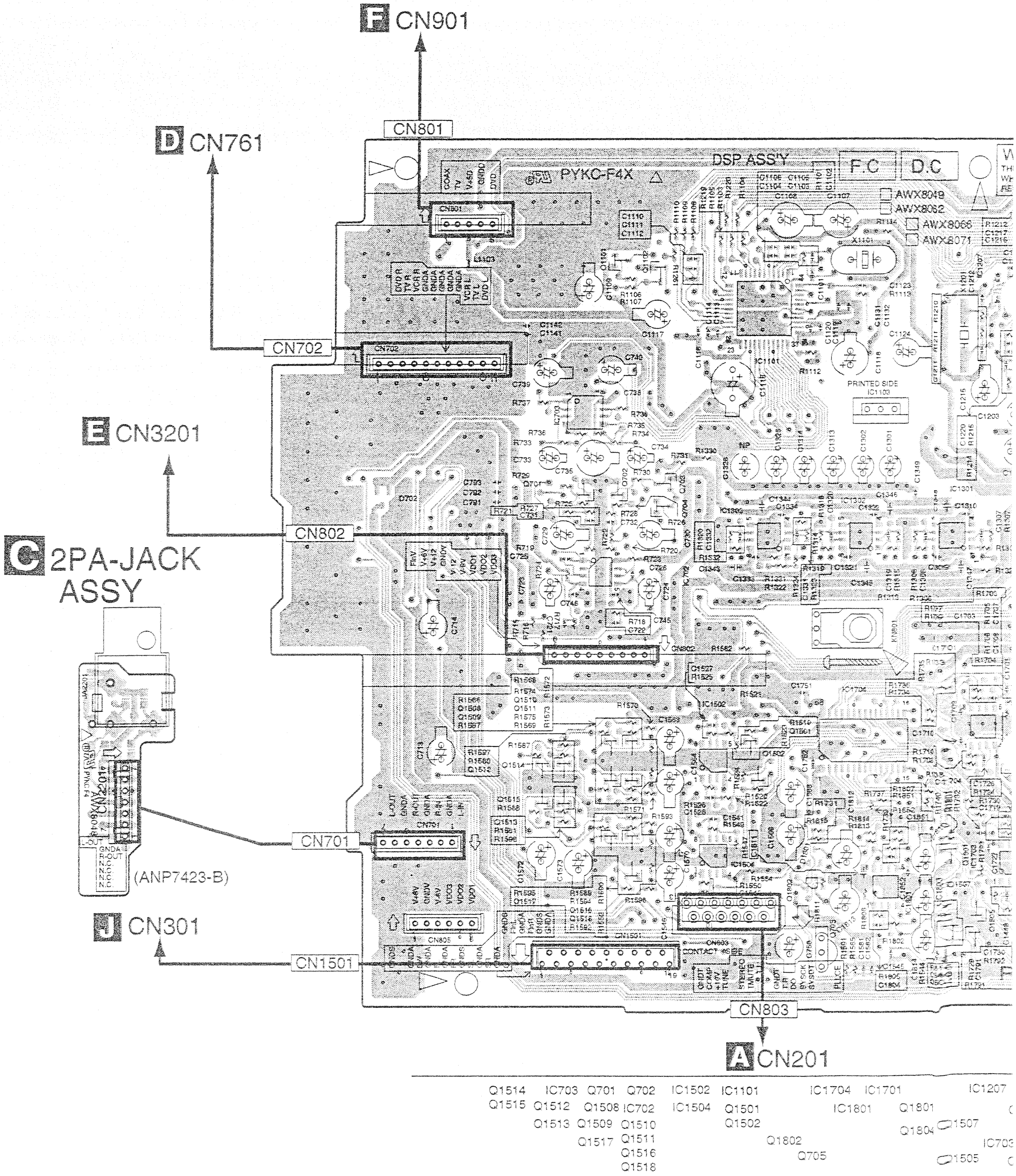
Q201 IC201 Q203 IC202 Q205 Q204

A **A**

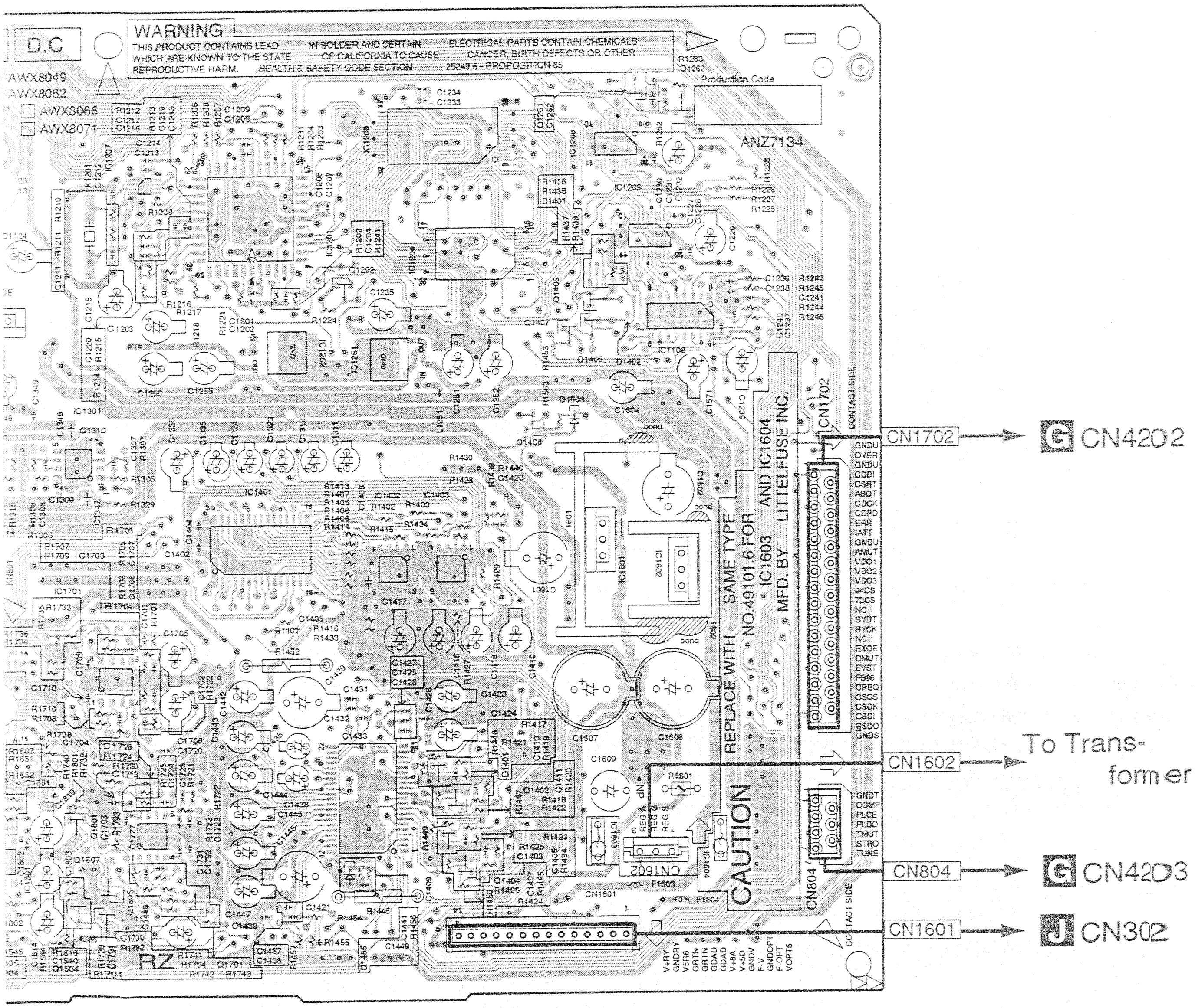
4.2 DSP and 2PA-JACK ASSY

SIDE A

B DSP ASSY


F CN901
CN801
D CN761
CN702
E CN3201
CN802
C 2PA-JACK ASSY
CN701
(ANP7423-B)
J CN301
CN1501
CN803
A CN201
PYKC-F4X
DSP ASS'Y
F.C
D.C
AWX8049
AWX8062
AWX8066
AWX8071
PRINTED SIDE
IC1103
CONTACT
Q1514 Q1515
IC703 Q1512 Q1513
Q701 Q1508 Q1509 Q1517
Q702 IC702 Q1510 Q1511 Q1516 Q1518
IC1502 IC1504
IC1101 Q1501 Q1502
Q1802
Q705
IC1704 IC1801
IC1701 Q1801 Q1804
D1507
D1505
IC1207
IC703

SIDE A


D.C
WARNING
THIS PRODUCT CONTAINS LEAD IN SOLDER AND CERTAIN ELECTRICAL PARTS CONTAIN CHEMICALS WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. HEALTH & SAFETY CODE SECTION 25249.6 - PROPOSITION 65
AWX8049
AWX8062
AWX8066
AWX8071
Production Code
ANZ7134
REPLACE WITH SAME TYPE NO.491016 FOR IC1603 AND IC1604 MFD. BY LITTELFUSE INC.
CAUTION
CONTACT SIDE
RZ
CN1702
G CN4202
CN1602
To Trans-former
CN804
G CN4203
CN1601
J CN302

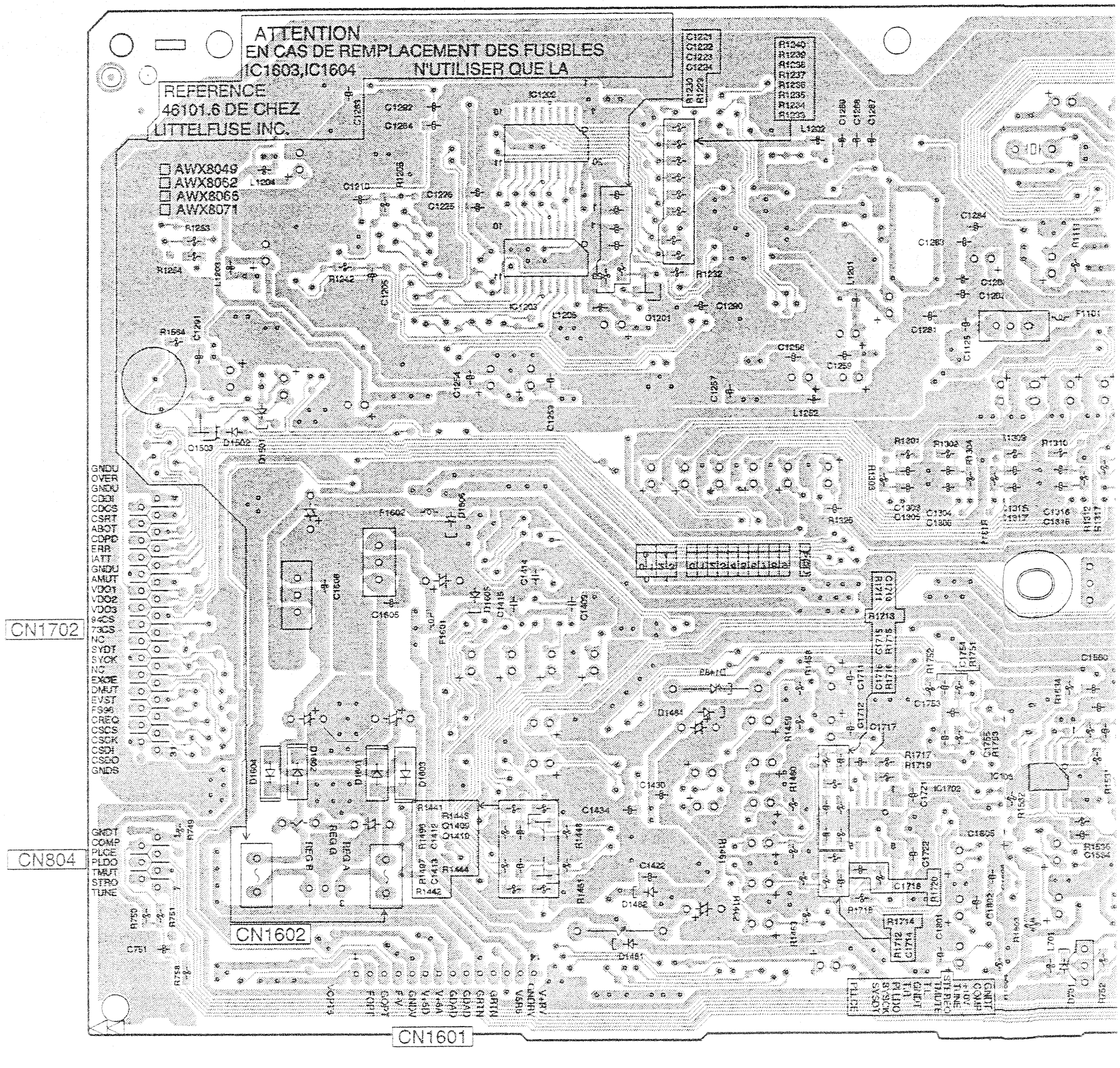
(ANP7423-B)

01 IC1207 IC1201 Q1202 IC1208 Q1408 Q1261
Q1801 Q1411 IC1401 IC1252 IC1251 IC1204 Q1405 IC1206
Q1804 Q1507 Q1401 Q1407 IC1205
IC703 Q1402 Q1406 IC1102 IC1604
Q1505 Q1701 IC1409 Q1403 IC1603 IC1601 IC1602
Q1404

B

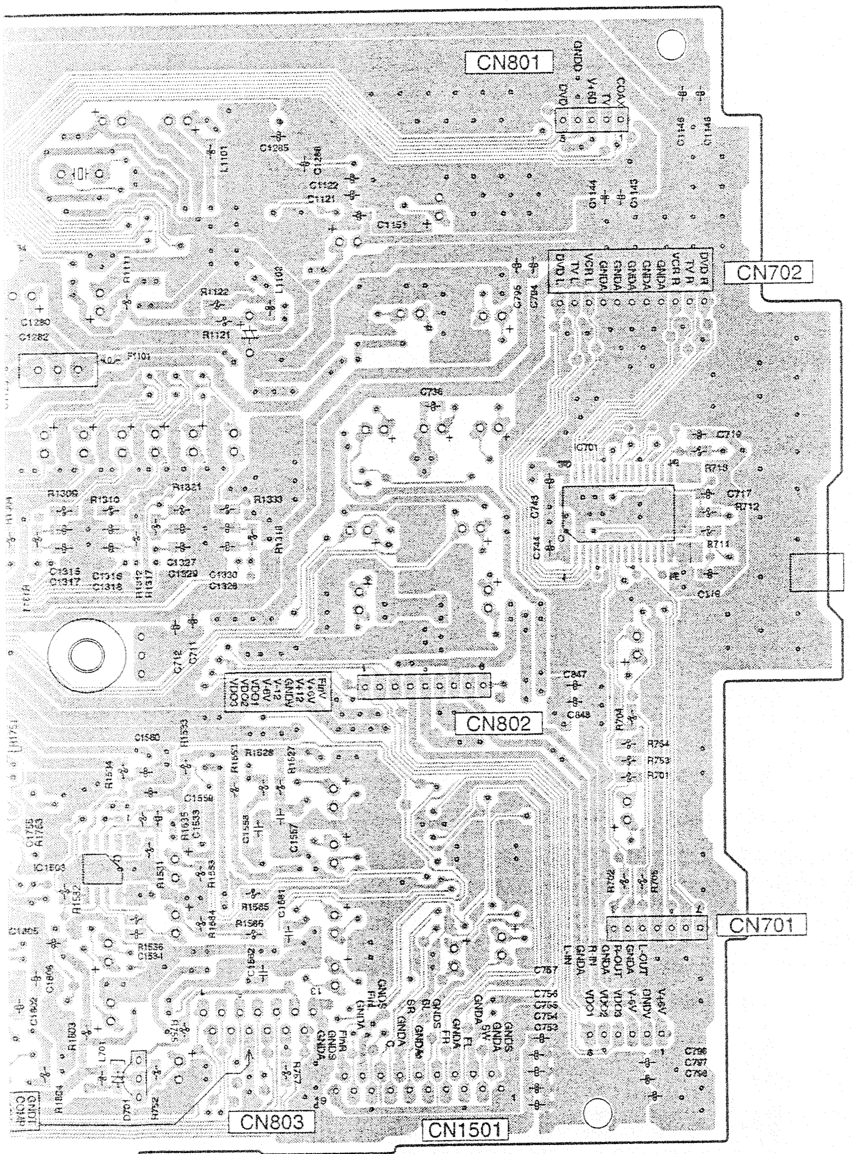
SIDE B

B DSP ASSY


ATTENTION
EN CAS DE REMPLACEMENT DES FUSIBLES
IC1603,IC1604 N'UTILISER QUE LA
REFERENCE
46101.6 DE CHEZ
LITTELFUSE INC.
☐ AWX8049
☐ AWX8062
☐ AWX8066
☐ AWX8071
IC1202
IC1203
CN1702
GNDU
OVER
GNDU
CDDI
CDCS
CSRT
ABOT
CDPD
ERR
IATT
GNDU
AMUT
VDO1
VDO2
VDO3
94CS
73CS
NC
SYDT
SYCK
NC
EXOE
DMUT
EVST
FS96
CREQ
CSCS
CSCK
CSDI
CSDO
GNDS
CN804
GNDT
COMP
PLCE
PLDO
TMUT
STRO
TUNE
CN1602
CN1601
F1101
IC1702

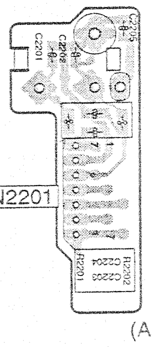
Q1503 IC1202 Q1409 Q1201 IC1702 IC1503
IC1203 Q1410

SIDE B


CN801
CN702
CN802
CN701
CN803
CN1501
IC701

(ANP7423-B)

C 2PA-JACK ASSY



(ANP7422-B)

IC1503

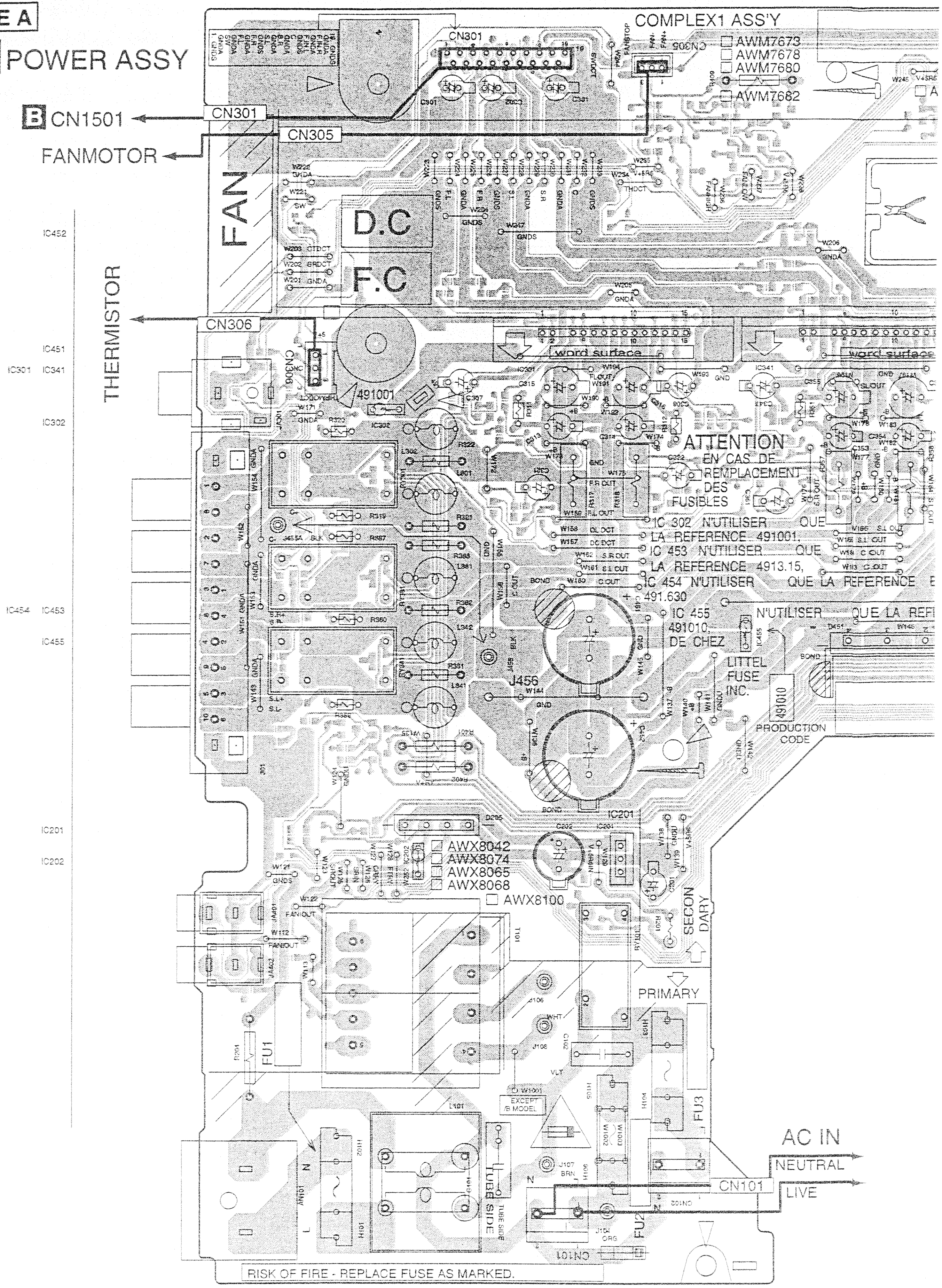
IC701

B

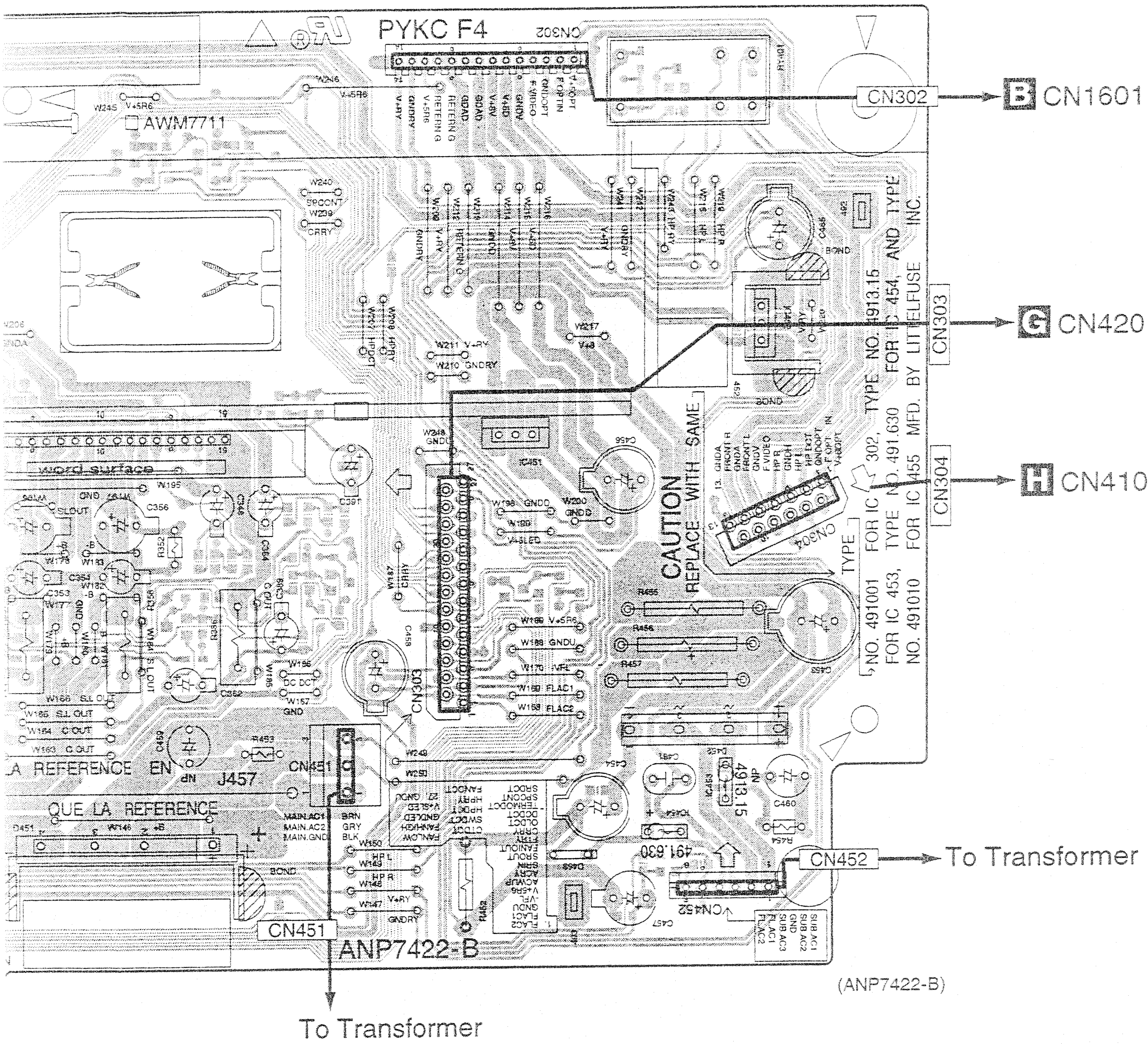
4.3 POWER and FRONT INPUT ASSYS

SIDE A

J POWER ASSY

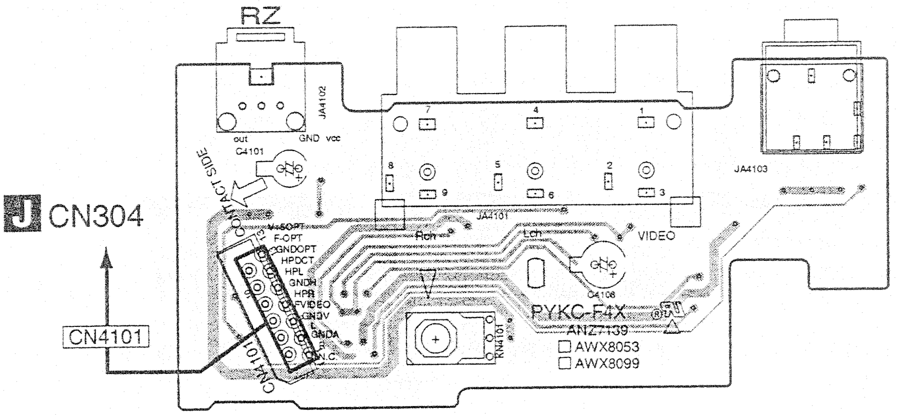

B CN1501
FANMOTOR
CN301
CN305
CN306
THERMISTOR
FAN
D.C
F.C
COMPLEX1 ASS'Y
☐ AWM7673
☐ AWM7678
☐ AWM7680
☐ AWM7682
IC452
IC451
IC301 IC341
IC302
IC454 IC453
IC455
IC201
IC202
word surface
word surface
491001
ATTENTION
EN CAS DE
REMPLACEMENT
DES
FUSIBLES
IC 302 N'UTILISER QUE
LA REFERENCE 491001.
IC 453 N'UTILISER QUE
LA REFERENCE 4913.15,
IC 454 N'UTILISER QUE LA REFERENCE
491.630
IC 455 N'UTILISER QUE LA REF
491010
DE CHEZ
LITTEL
FUSE
INC.
491010
PRODUCTION
CODE
J456
BOND
IC201
☒ AWX8042
☐ AWX8074
☐ AWX8065
☐ AWX8068
☐ AWX8100
SECON
DARY
PRIMARY
FU1
FU2
FU3
T101
EXCEPT
/B MODEL
TUBE SIDE
TUBE SIDE
AC IN
NEUTRAL
LIVE
CN101
N
L
RISK OF FIRE - REPLACE FUSE AS MARKED.

SIDE A


PYKC F4
CN302
B CN1601
AWM7711
CN303
G CN4201
CN304
H CN4101
CAUTION
REPLACE WITH SAME
TYPE NO. 491001 FOR IC 302, TYPE NO. 491.315 FOR IC 453, TYPE NO. 491.630 FOR IC 454, AND TYPE NO. 491010 FOR IC 455 MFD. BY LITTELFUSE INC.
J457
CN451
CN452
To Transformer
ANP7422-B
To Transformer

(ANP7422-B)

H FRONT INPUT ASSY


RZ
JA4102
JA4101
JA4103
J CN304
CN4101
CN4101
CONTACT SIDE
V+5OPT
F-OPT
GNDOPT
HPDCT
HPL
GNDH
HPR
FVIDEO
GNDV
L
GNDA
R
N.C.
Rch
Lch
VIDEO
PYKC-F4X
ANZ7139
☐ AWX8053
☐ AWX8099

(ANP7423-B)

IN

RAL

H J

SIDE B

J POWER ASSY

Q401

Q386 Q403

Q391

Q404

Q405

Q406
Q409
Q410

Q385 Q384

Q383
Q412 Q346 Q345

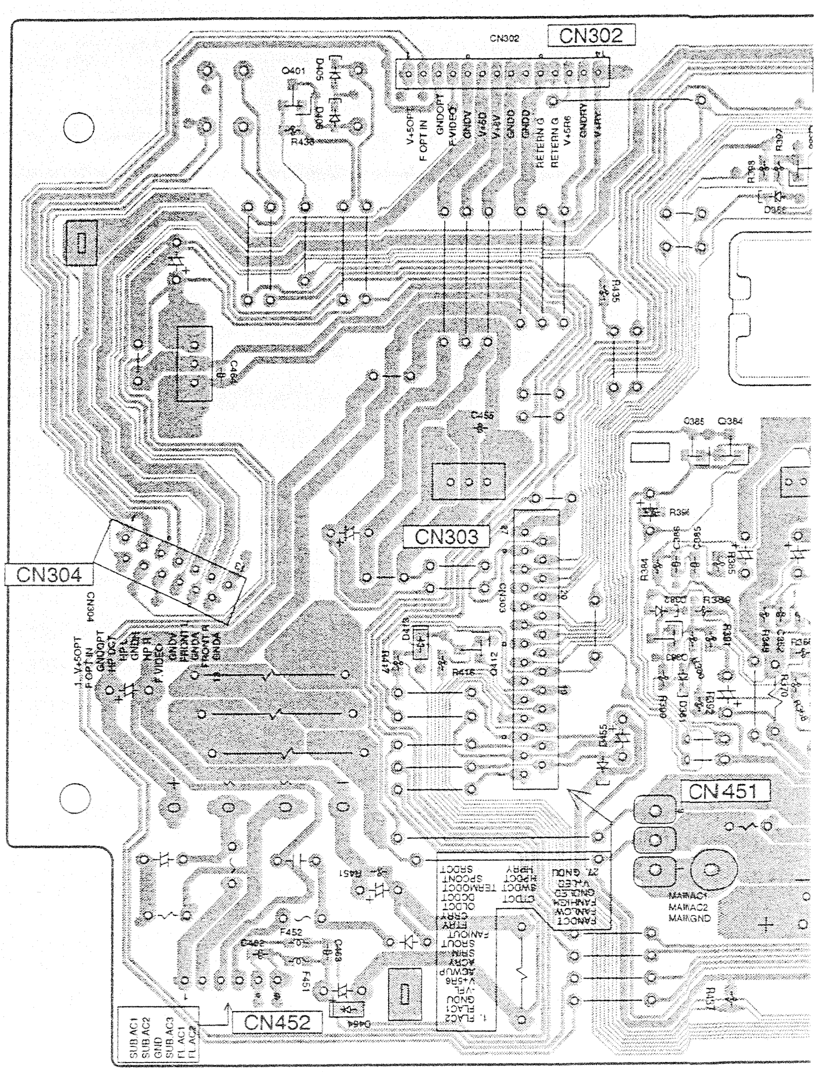
Q306

Q305

Q389

Q390

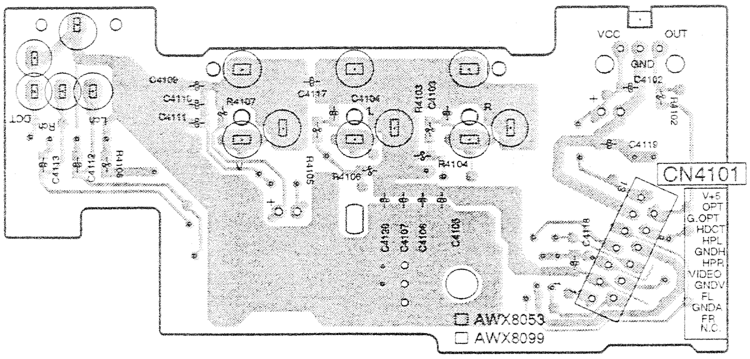
Q387


CN302
Q401
D405
D406
R438
V+5OPT
F OPT IN
GNDOPT
F.VIDEO
GNDV
V+5D
V+5V
GNDD
GNDD
RETERN G
RETERN G
V+5R6
GNDRY
V+RY
R435
C464
C456
Q385
Q384
R396
CN303
CN304
V+5OPT
F OPT IN
GNDOPT
HP DCT
HPL
GNDH
HPR
F.VIDEO
GNDV
FRONT L
GNDA
FRONT R
GNDA
D416
Q412
R416
D455
CN451
MAINAC1
MAINAC2
MAINGND
R451
F452
F451
C462
C463
D464
CN452
SUB AC1
SUB AC2
GND
SUB AC3
FL AC1
FL AC2
R384
R386
R357
R398
R397
D388

(ANP7422-B)

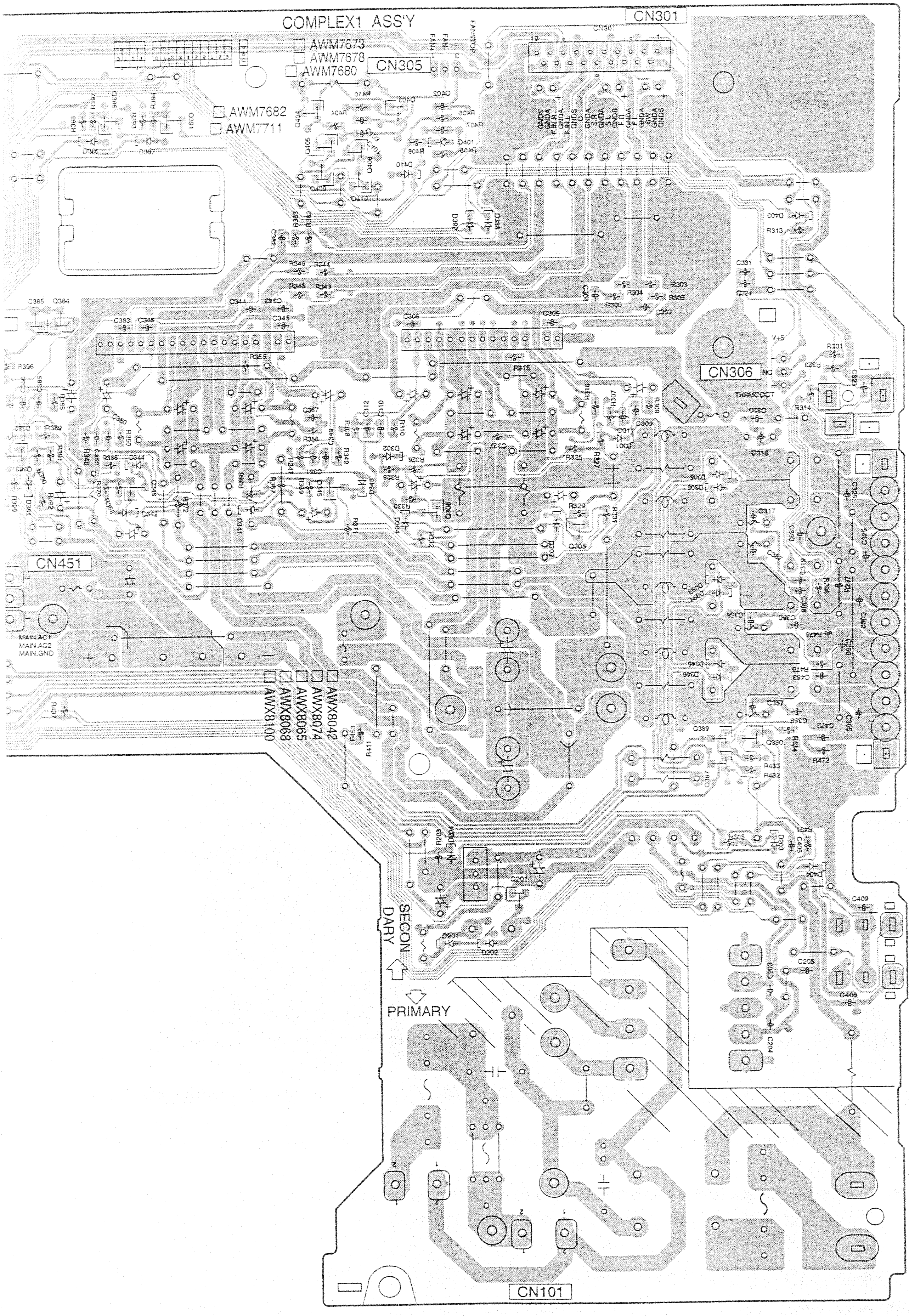
H FRONT INPUT ASSY

Q201


VCC
OUT
GND
C4102
R4102
C4119
C4109
C4110
C4111
R4107
C4137
C4104
R4103
C4103
L
R
R4104
R4105
R4106
R4101
C4113
C4112
C4118
C4120
C4107
C4106
C4105
CN4101
V+5
OPT
G.OPT
HDCT
HPL
GNDH
HPR
VIDEO
GNDV
FL
GNDA
FR
N.C.
☐ AWX8053
☐ AWX8099

(ANP7423-B)

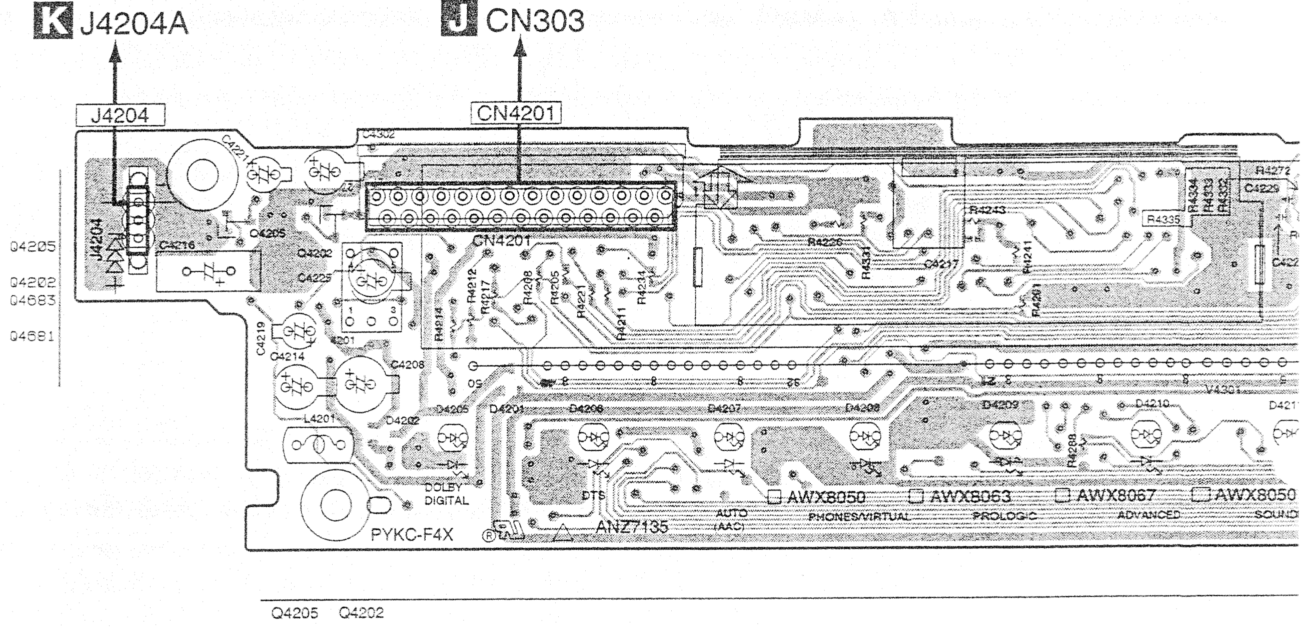
SIDE B


COMPLEX1 ASS'Y
CN301
☐ AWM7673
☐ AWM7678
☐ AWM7680
CN305
☐ AWM7682
☐ AWM7711
CN306
THERMOCUT
CN451
MAIN AC1
MAIN AC2
MAIN GND
☐ AWX8042
☐ AWX8074
☐ AWX8065
☐ AWX8068
☐ AWX8100
SECONDARY
PRIMARY
CN101

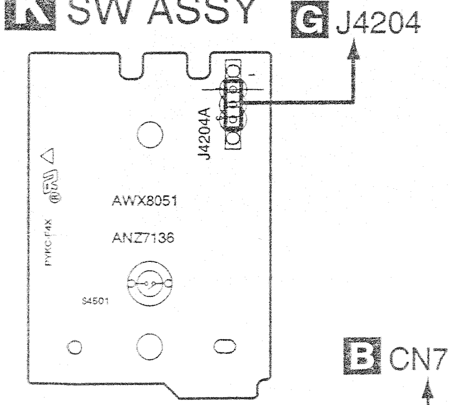
4.4 6PJACK, DIG.IN, SW, ENCODER and VIDEO ASSYS

SIDE A

G FRONT ASSY

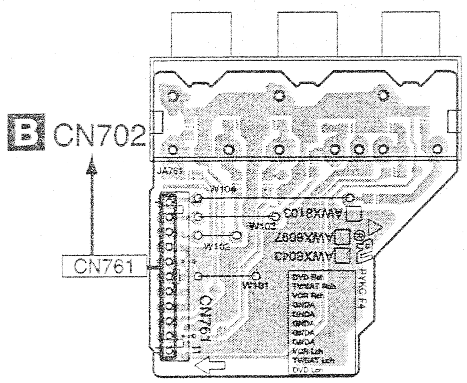

K J4204A
J CN303
J4204
CN4201
Q4205
Q4202
Q4683
Q4681
C4221
C4216
C4225
C4219
C4214
C4208
L4201
D4202
D4205
D4201
D4206
D4207
D4208
D4209
D4210
R4212
R4217
R4208
R4205
R4221
R4211
R4231
R4226
R4331
C4217
R4243
R4241
R4201
R4272
C4229
R4334
R4333
R4332
R4335
R4288
V4301
DOLBY DIGITAL
DTS
AUTO (AAC)
PHONES/VIRTUAL
PROLOGIC
ADVANCED
SOUND
☐ AWX8050
☐ AWX8063
☐ AWX8067
☐ AWX8050
PYKC-F4X
ANZ7135
Q4205 Q4202

K SW ASSY


G J4204
J4204A
AWX8051
ANZ7136
PYKC-F4X
S4501

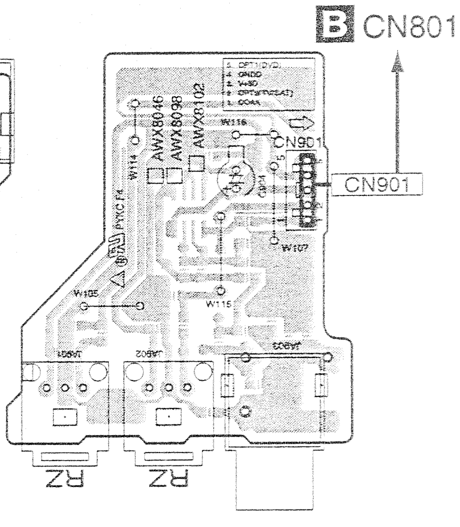
(ANP7423-B)

D 6PA-JACK ASSY


B CN702
CN761
JA761
W104
W103
W102
W101
AWX8103
AWX8097
AWX8043
PYKC F4
DVD Rch
TV/SAT Rch
VCR Rch
GNDA
GNDA
GNDA
GNDA
GNDA
VCR Lch
TV/SAT Lch
DVD Lch

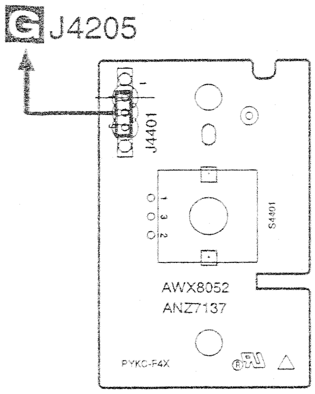
(ANP7422-B)

F DIGITAL-IN ASSY

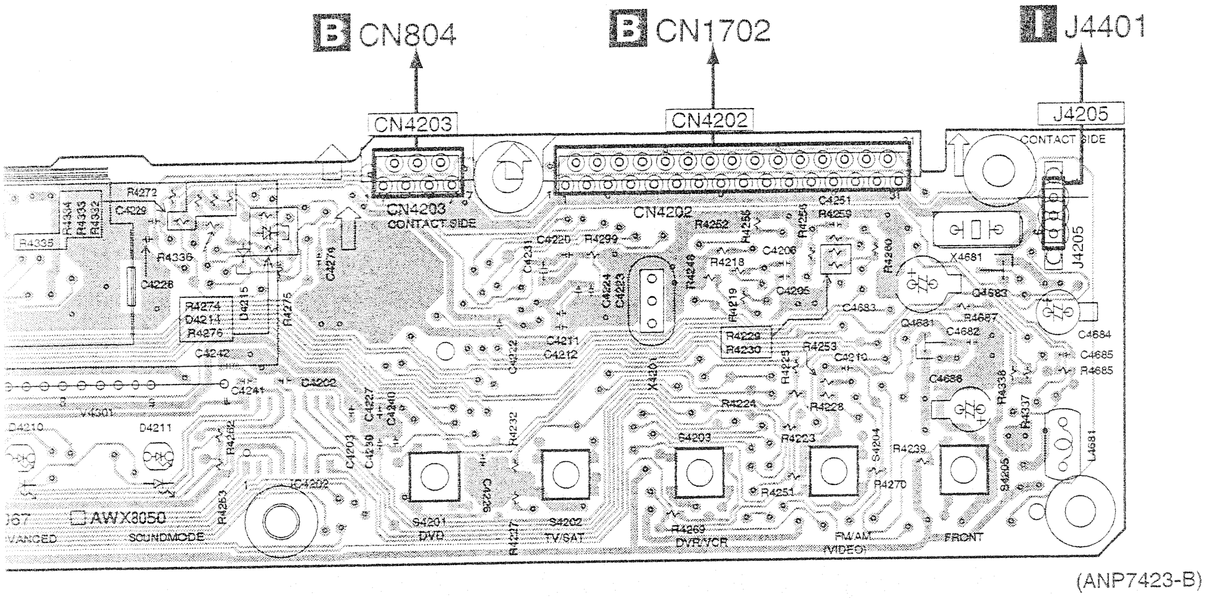

B CN801
CN901
AWX8046
AWX8098
AWX8102
W114
W116
W107
W105
W115
PYKC F4
JA801
JA802
JA803
RZ
RZ

(ANP7422-B)

I ENCODER ASSY


G J4205
J4401
S4401
AWX8052
ANZ7137
PYKC-F4X

(ANP7423-B)

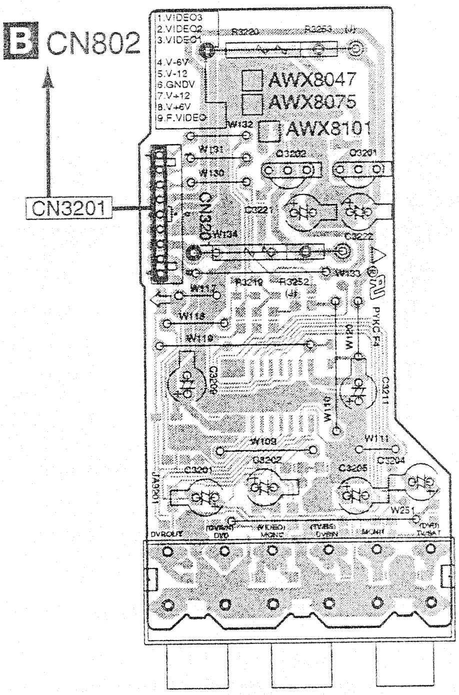

B CN804
B CN1702
I J4401
CN4203
CN4202
J4205
CONTACT SIDE
CN4203 CONTACT SIDE
AWX8050
SOUNDMODE
S4201 DVD
S4202 TV/SAT
S4203
R4269 DVR/VCR
FM/AM (VIDEO)
FRONT
S4204
S4205
X4681
Q4683
Q4681
C4684
C4685
R4685
C4686
J4681
D4210
D4211
R4274
D4214
R4275
C4242
C4241
C4202
X4201

(ANP7423-B)

Q4681 Q4683

E VIDEO ASSY

301

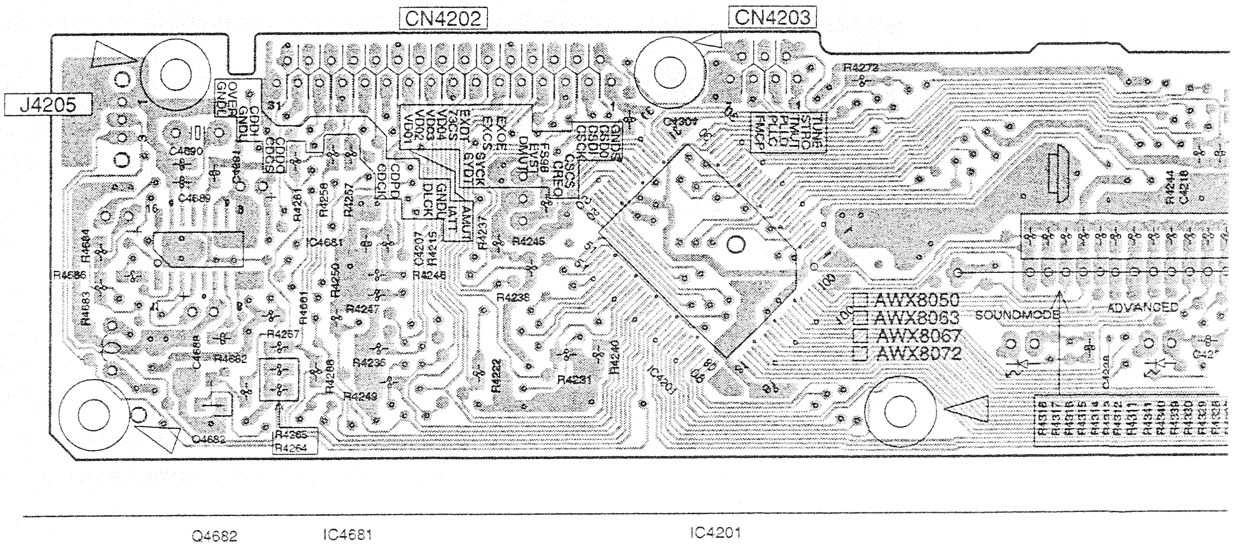

B CN802
CN3201
1.VIDEO3
2.VIDEO2
3.VIDEO1
4.V-6V
5.V-12
6.GNDV
7.V+12
8.V+6V
9.F.VIDEO
AWX8047
AWX8075
AWX8101
Q3202
Q3201
C3221
C3222
W132
W131
W130
W134
W133
W117
W118
W119
W120
W116
W109
W111
W251
R3220
R3253
R3219
R3252
C3201
C3202
C3205
C3204
C3211
C3209
JA3201
DVROUT
DVD
MONIT
DVRIN
TV/SAT

Q3201
Q3202

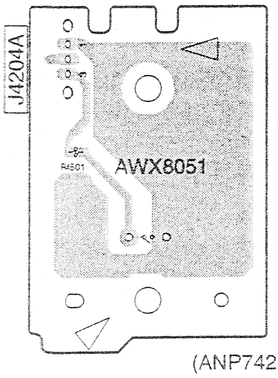
(ANP7422-B)

SIDE B

G FRONT ASSY

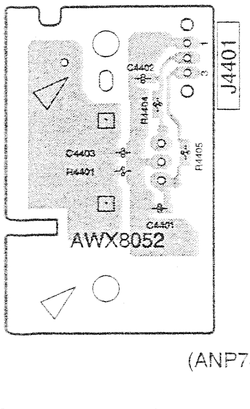

CN4202
CN4203
J4205
R4272
C4690
C4689
R4684
R4686
R4683
C4688
R4682
Q4682
R4265
R4264
IC4681
R4261
R4258
R4257
R4250
R4247
R4236
R4249
C4207
R4215
R4246
R4237
R4245
R4238
R4222
R4231
R4240
IC4201
R4244
C4218
AWX8050
AWX8063
AWX8067
AWX8072
SOUNDMODE
ADVANCED
Q4682
IC4681
IC4201

K SW ASSY


J4204A
R4501
AWX8051

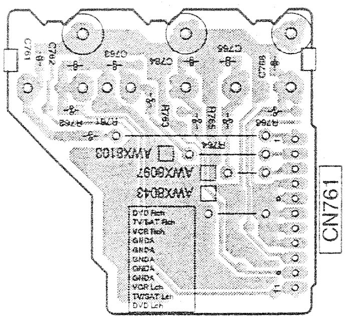
(ANP7423-B)

I ENCORDER ASSY


J4401
C4402
R4404
C4403
R4401
R4405
C4401
AWX8052

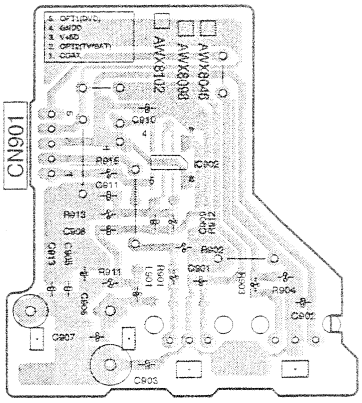
(ANP7423-B)

D 6PA-JACK ASSY


CN761
AWX8103
AWX8097
AWX8043
DVD Rch
TV/SAT Rch
VCR Rch
GNDA
GNDA
GNDA
GNDA
GNDA
VCR Lch
TV/SAT Lch
DVD Lch

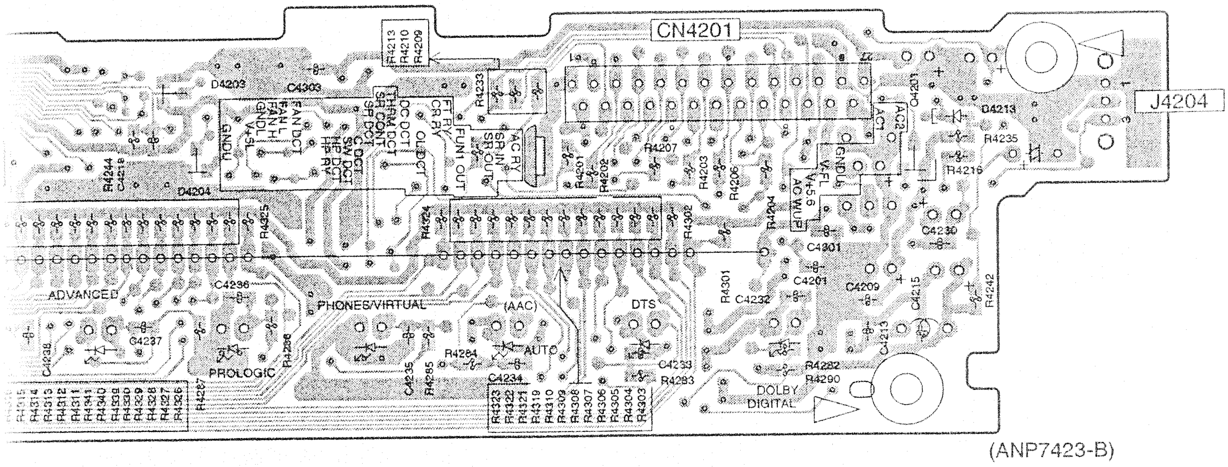
(ANP7422-B)

F DIGITAL-IN ASSY


CN901
AWX8102
AWX8098
AWX8046
IC902
C910
R915
C911
R913
C908
R911
L901
R902
C901
R904
C902
C907
C903

(ANP7422-B)

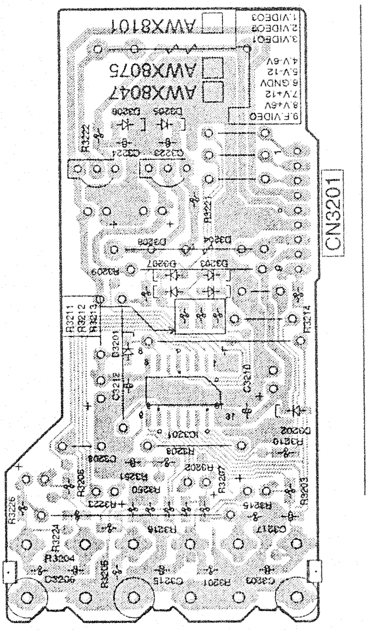
SIDE B


CN4201
J4204
D4203
C4303
D4204
D4213
R4213
R4210
R4209
R4233
R4244
R4235
R4216
R4207
R4201
R4202
R4203
R4206
R4204
R4302
R4324
R4325
R4301
C4301
C4201
C4232
C4209
C4215
C4213
R4242
C4230
C4236
C4237
C4238
C4235
C4234
C4233
R4286
R4285
R4284
R4283
R4282
R4290
R4287
ADVANCED
PHONES/VIRTUAL
(AAC)
DTS
AUTO
PROLOGIC
DOLBY
DIGITAL
GNDU
V+5L
FAN DCT
FAN L
FAN H
GNDL
SP DCT
SR CONT
C DCT
HP DCT
SW DCT
HP RY
FL RY
CR RY
OL DCT
DC DCT
TEMP DCT
FUNT OUT
SR OUT
SR IN
AC RY
AC1
AC2
GNDU
V-FL
V+5.6
AC WUP
R4315
R4314
R4313
R4312
R4311
R4340
R4341
R4339
R4330
R4329
R4328
R4327
R4326
R4323
R4322
R4321
R4319
R4310
R4309
R4308
R4307
R4306
R4305
R4304
R4303

(ANP7423-B)

Q4201

VIDEO ASSY


AWX8101
AWX8075
AWX8047
CN3201
1.VIDEO3
2.VIDEO2
3.VIDEO1
4.V-6V
5.V-12
6.GNDV
7.V+12
8.V+6V
9.F.VIDEO
IC3201
R3222
R3221
R3211
R3212
R3213
R3214
R3209
R3208
R3202
R3207
R3206
R3251
R3250
R3223
R3215
R3203
R3226
R3224
R3204
R3205
R3216
R3201
R3210
D3201
D3202
D3203
D3204
D3205
D3206
D3207
D3208
C3212
C3210
C3208
C3217
C3206
C3218
C3203

(ANP7422-B)

IC3201

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10^1 → 561 .... RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$*J*
47k Ω → 47 x 10^3 → 473 .... RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$*J*
0.5 Ω → R50 .... RN2H$\boxed{R}\boxed{5}\boxed{0}$*K*
1 Ω → 1R0 .... RS1P$\boxed{1}\boxed{R}\boxed{0}$*K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10^1 → 5621 .... RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$*F*

LIST OF ASSEMBLIES

Mark	No. Description	Part No.
	1..FM/AM TUNER MODULE	AXQ7232
NSP	1..COMPLEX 1 Assy	AWM7673
	2..POWER Assy	AWX8042
	2..6PA-JACK Assy	AWX8043
	2..DIGITAL IN Assy	AWX8046
	2..VIDEO Assy	AWX8047
	2..2PA-JACK Assy	AWX8048
NSP	1..COMPLEX 2 Assy	AWM7674
	2..DSP Assy	AWX8049
	2..FRONT Assy	AWX8050
	2..SW Assy	AWX8051
	2..ENCODER Assy	AWX8052
	2..FRONT INPUT	AWX8053

J POWER ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
⚠	IC454	AEK7006
⚠	IC302	AEK7009
⚠	IC453	AEK7016
⚠	IC455	AEK7022
⚠	IC452	BA12T
⚠	IC451	NJM7805FA
⚠	IC201	NJM78M56FA
	IC301	STK402-040
	IC341	STK402-240
	Q386, Q391	2SA1037K
	Q384, Q385	2SC2412K
	Q305, Q306, Q345	2SC2712
	Q346, Q383	2SC2712
	Q387, Q389, Q401	2SC2712
	Q403, Q404	2SC2712
	Q390, Q405	DTA124EK
	Q406	DTA124EK
	Q409, Q410	DTC124EK
	Q201	DTC143EK
	D201, D202, D203	1SS355
	D301, D302	1SS355
	D303, D304	1SS355
	D305, D306,	1SS355
	D341, D342, D343	1SS355
	D344, D345	1SS355
	D346, D381	1SS355
	D382, D383	1SS355
	D384, D385	1SS355
	D386, D387	1SS355
	D388, D401	1SS355
	D403, D404	1SS355
	D405, D406	1SS355
⚠	D452	D3SBA20(B)
⚠	D451	D5SBA20(B)
⚠	D205	S1VB20/F03
⚠	D453	S5566G(TPB2)
	D455	UDZ20B
	D204, D410	UDZS5.1B
	D454	UDZS6.8B

COILS AND FILTERS

Mark	No. Description	Part No.
⚠	L101	ATF7018
	L301, L302, L341	ATH-133
	L342, L381	ATH-133
	F451, F452	DTF1070
	F453	DTF1070

SWITCHES AND RELAYS

Mark	No. Description	Part No.
	RY301, RY341, RY381	ASR7008
	RY401	ASR7008
⚠	RY101	ASR7013

CAPACITORS

Mark	No. Description	Part No.
⚠	C101	ACE7013
⚠	C102	ACG7033
	C459, C460	ACH1237
	C451, C452	ACH7161
	C401, C403	CCSRCH101J50
	C305, C306, C331	CCSRCH221J50
	C345, C346	CCSRCH221J50
	C383, C409	CCSRCH221J50
	C323	CCSRCH331J50
	C303, C304, C343	CCSRCH471J50
	C344, C382	CCSRCH471J50
	C309, C310	CCSRCH6R0D50
	C311, C312, C349	CCSRCH6R0D50
	C350, C351	CCSRCH6R0D50
	C352, C385	CCSRCH6R0D50
	C386	CCSRCH6R0D50
	C202, C456	CEAT102M16
	C313, C314	CEAT220M50
	C353, C354	CEAT220M50
	C457	CEAT221M25
	C321, C322, C361	CEAT2R2M50
	C362, C389	CEAT2R2M50
	C454, C465	CEAT331M50
	C453	CEAT332M16
	C201	CEAT470M25
	C458	CEAT471M35
	C301, C302	CEHAT100M50
	C381	CEHAT100M50
	C315, C316, C355	CEHAT101M35
	C356	CEHAT101M35
	C391	CEHAT221M10
	C307, C308, C347	CEHAT470M25
	C348, C384	CEHAT470M25
	C464	CKSQYB473K50
	C393, C483	CKSRYB102K50
	C203, C204, C205	CKSRYB103K50
	C402, C406	CKSRYB103K50
	C317, C318	CKSRYB104K25
	C319, C320, C324	CKSRYB104K25
	C357, C358, C359	CKSRYB104K25
	C360, C360	CKSRYB104K25
	C387, C388, C405	CKSRYB104K25
	C455, C462, C463	CKSRYB104K25
	C472	CKSRYB104K25
	C325, C326, C365	CKSRYB472K50
	C366, C392	CKSRYB472K50
⚠	C461	CQMA473J50

RESISTORS

Mark	No. Description	Part No.
⚠	R321, R322, R361	RD1/2LMF100J
⚠	R362, R388	RD1/2LMF100J
⚠	R319, R320	RD1/2MMF4R7J
⚠	R359, R360, R387	RD1/2MMF4R7J
⚠	R201	RD1/2VM270J
⚠	R311, R312, R351	RD1/4MUF101J
⚠	R352	RD1/4MUF101J
⚠	R453, R454	RD1/4MUF4R7J
⚠	R409	RS1LMF101J
⚠	R452	RS1LMF102J
⚠	R401, R402	RS1LMF331J
⚠	R317, R318	XCN3001
⚠	R357, R358, R386	XCN3001
	Other Resistors	RS1/16S###J

OTHERS

Mark	No. Description	Part No.
	CN302 FJ CONNECTOR 14P	14PL-FJ
	CN304 13P FFC CONNECTOR	52045-1345
	CN303 27P FFC CONNECTOR	52045-2745
	JA301 1P PIN JACK	AKB7080
	301 6P SPEAKER TERMINAL	AKE7081
	H101, H102 FUSE CLIP	AKR7001
⚠	T101 SUB TRANSFORMER	ATT7037
⚠	CN101 2P CONNECTOR	B2P3-VH
	CN305 3P CONNECTOR	B3B-PH-K
	CN451 3P CONNECTOR	B3P-VH
	CN452 6P TOP POST	B6B-EH
	AN101 AC INLET	BKP1046
	CN306 3P PLUG	KM250MA3
	JA401, JA402 REMOTE JACK	RKN1004
	491 PCB BINDER	VEF1040
	CN301 19P FJ CONNECTOR	VKN1775

D 6PA-JACK ASSY

CAPACITORS

Mark	No. Description	Part No.
	C761, C762, C763	CCSRCH101J50
	C764, C765, C766	CCSRCH101J50

RESISTORS

Mark	No. Description	Part No.
	Other Resistors	RS1/16S###J

OTHERS

Mark	No. Description	Part No.
	CN761 11P SOCKET	KP200TA11L
	JA761 6P PIN JACK	VKB1130

F DIGITAL-IN ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC902	TC7WU04F

COILS AND FILTERS

Mark	No. Description	Part No.
	L901	QTL1013

CAPACITORS

Mark	No. Description	Part No.
	C907	CCSRCH221J50
	C911	CCSRCH470J50
	C908, C910, C913	CKSRYB103K50
	C901, C902, C905	CKSRYB104K25
	C906	CKSRYB105K10

RESISTORS

Mark	No. Description	Part No.
	Other Resistors	RS1/16S###J

OTHERS

Mark	No. Description	Part No.
	JA901, JA902 OPTICAL RECEIVE	GP1FA502RZ
	CN901 5P SOCKET	KP200TA5L
	JA903	VKB1077

E VIDEO ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC3201	NJM2296M
	Q3201	2SA1515
	Q3202	2SC3377
	D3201, D3202, D3203	1SS355
	D3204, D3207, D3208	1SS355
	D3205, D3205, D3206, D3206	UDZS6.2B

CAPACITORS

Mark	No. Description	Part No.
	C3203, C3206, C3215	CCSRCH221J50
	C3217	CCSRCH470J50
	C3221, C3222	CEAT470M10
	C3202, C3204, C3205	CEAT470M25
	C3205, C3209, C3211	CEAT470M25

RESISTORS

Mark	No. Description	Part No.
⚠	R3219, R3220	RS2LMF181J
	Other Resistors	RS1/16S###J

OTHERS

Mark	No. Description	Part No.
	JA3201 6P PIN JACK	AKB7140
	CN3201 9P SOCKET	KP200TA9L

C 2P JACK ASSY

Mark	No. Description	Part No.
	CAPACITORS	
	C2201, C2202	CCSRCH101J50
	C2203, C2204	CCSRCH220J50
	C2205	CKSRYB103K50
	RESISTORS	
	Other Resistors	RS1/16S###J
	OTHERS	
	JA2201 2P PIN JACK	AKB7046
	CN2201 7P SOCKET	KP200TA7L

A FM/AM TUNER MODULE

	SEMICONDUCTORS	
	IC201	BA1451F
	IC202	LC72131MD
	Q201, Q204, Q205, Q601	2SC2412K
	Q202	DTA124ES
	Q203, Q602	DTC124EK
	D201	1SS133
	D601	HVU187
	D202	MTZJ5.1C
	D101	UDZS6.8B
	COILS AND FILTERS	
	L201	ATE7003
	F202	ATF-107
	F201	ATF-119
	F601	ATF7025
	F203	ATF7026
	L602	LAU2R2J
	L601	LCTA270J2520
	CAPACITORS	
	C605	CCSQCH680J50
	C212, C213, C226, C233-C235	CCSRCH101J50
	C240, C614	CCSRCH101J50
	C206	CCSRCH120J50
	C231, C232	CCSRCH150J50
	C223	CEAT100M50
	C229	CEAT101M10
	C224	CEAT1R0M50
	C227	CEAT220M25
	C241	CEAT2R2M50
	C243	CEAT330M16
	C228	CEAT3R3M50
	C237	CEAT470M10
	C211	CEJQ1R0M50
	C210	CEJQ470M16
	C103, C104, C204, C238, C609	CKSRYB102K50
	C102, C208, C216, C217, C220	CKSRYB103K50
	C239, C242, C604, C610, C615	CKSRYB103K50
	C225	CKSRYB153K50
	C607, C608	CKSRYB182K50
	C201, C205, C214, C230, C236	CKSRYB223K50
	C244, C611	CKSRYB223K50
	CII\	CKSRYB224K10
	C603	CKSRYB392K50
	C215	CKSRYB471K50
	C202, C222	CKSRYB473K16
	C606	CKSRYB561K50

Mark	No. Description	Part No.
	RESISTORS	
	R211	RD1/4PU221J
	R221	RD1/4PU222J
	R233	RD1/4PU391J
	R103, R104	RS1/10S221J
	Other Resistors	RS1/16S###J
	OTHERS	
	CN201 13P SOCKET	52044-1345
	BN201 2P ANTENNA TERM.	AKA7002
	SHIELD CASE T	ANK7072
	SHIELD CASE B	ANK7073
	X201 CRYSTAR RES. 7.2MHz	ASS1093
	FM FRONT END	AXF7005
	AM RF TUNING BLOCK	AXX7072

B DSP ASSY

	SEMICONDUCTORS	
⚠	IC1603, IC1604	AEK7012
	IC1101	AK4586VQ
	IC1601	BA12T
	IC1102	BU4094BCF
	IC1201	CS493292
	IC1409	M62446FP
	IC703	NJM2100M
	IC1252	NJM2391DL1-25
	IC1251	NJM2391DL1-33
	IC1301, IC1302, IC1303, IC1402	NJM4558MD
	IC1403, IC1701, IC1702, IC1703	NJM4558MD
	IC1801	NJM4558MD
	IC1103	NJM78M05FA
	IC1602	NJM7912FA
	IC1704	NJU7311AM
	IC701	NJU7312AM
	IC1401	NJU7313AM
	IC1204	PD8099A
	IC1205	TC74LVX244FT
	IC1202, IC1203	TC74VHC574F
	IC1206	TC74VHCT244AFT
	IC1207	TC7WU04FU
	IC1502, IC1503, IC1504, IC702	UPC4570G2
	Q705	2SC1740S
	Q1401, Q1402, Q1403, Q1404	2SC3326
	Q1409, Q1410, Q1501, Q1502	2SC3326
	Q1508, Q1509, Q1510, Q1511	2SC3326
	Q1512, Q1513, Q1514, Q1515	2SC3326
	Q1516, Q1517, Q1518, Q1701	2SC3326
	Q1801, Q701, Q702	2SC3326
	Q1101, Q1262, Q1405, Q1406	DTA124EK
	Q1408, Q1408, Q1503, Q1504	DTA124EK
	Q1505, Q1507, Q703	DTA124EK
	Q1261, Q1407, Q704	DTC124EK
	Q1102	DTC143EK
	D1601, D1602, D1603, D1604	1SR154-400
	D1481, D1483, D1501, D1502, D701	1SS355
	D702	DAN217
	D1401, D1402	DAP202K
	D1605, D1606	RB501V-40
	D1485	UDZS5.1B

Mark	No. Description	Part No.
	D1503	UDZS5.6B
	D1482, D1484	UDZS6.8B
	COILS AND FILTERS	
	L1201, L1251, L1252	ATL7002
	F1101, F1601, F1602, F1603, F1604	DTF1070
	L1101, L1102, L1103, L1202, L1203	QTL1013
	L1204, L1205	QTL1013
	L701, L701	QTL1013
	CAPACITORS	
	C1609	ACH1237
	C1211, C1212, C1703, C1704, C1717	CCSRCH100D50
	C1718, C1724	CCSRCH100D50
	C1437, C1438, C1439, C1753, C1754	CCSRCH101J50
	C1755, C717, C718, C719	CCSRCH101J50
	C721, C722, C731, C732	CCSRCH101J50
	C1317, C1318	CCSRCH102J50
	C1101, C1102	CCSRCH220J50
	C1112, C1142, C1290, C1292, C1527	CCSRCH221J50
	C1528, C1533, C1534, C1541	CCSRCH221J50
	C1213, C1542	CCSRCH271J50
	C1329, C1331, C793	CCSRCH331J50
	C1730	CCSRCH470J50
	C1103, C1104, C1113, C1120, C1144	CCSRCH471J50
	C1201, C1206, C1208, C1216, C1218	CCSRCH471J50
	C1222, C1224, C1225, C1227, C1230	CCSRCH471J50
	C1233, C1280, C1281, C1327, C1405	CCSRCH471J50
	C1405, C1406, C1407, C1410, C1411	CCSRCH471J50
	C1412, C1413, C712, C755, C757	CCSRCH471J50
	C795, C797	CCSRCH471J50
	C1307, C1308, C1319, C1320	CCSRCH820J50
	C1326	CEANP100M16
	C1229, C1232, C1239, C1423, C1424	CEAT100M50
	C1442, C1443, C1444, C1445, C1446	CEAT100M50
	C1447	CEAT100M50
	C1124, C1203, C1235, C1252, C1256	CEAT101M16
	C1336, C1604, C758	CEAT101M16
	C1107, C1108, C1118	CEAT221M10
	C1607, C1608	CEAT222M25
	C1117	CEAT2R2M50
	C1421, C1429	CEAT331M10
	C729, C730	CEAT470M25
	C1115	CEAT471M16
	C1251, C1255, C1416, C1417, C1418	CEAT4R7M50
	C1419	CEAT4R7M50
	C1601	CEHAT221M25
	C1572, C1573, C713, C714	CEJQ100M50
	C739, C740	CEJQ100M50
	C735	CEJQ221M6R3
	C1215	CEJQ2R2M50
	C1301, C1302, C1311, C1312, C1313	CEJQ330M10
	C1314, C1323, C1324, C1325	CEJQ330M10
	C1335	CEJQ330M10
	C1435, C1436, C1546, C1563	CEJQ3R3M50
	C1564, C1568, C1569, C1570, C1571	CEJQ4R7M50
	C1705, C1706, C723, C724, C733	CEJQ4R7M50
	C734	CEJQ4R7M50
	C1803	CEJQR47M50
	C1262, C1287, C753, C798	CKSQYF105Z16
	C1343, C1344, C1345, C1346. C1347	CKSQYF225Z16

Mark	No. Description	Part No.
	C1348, C1408, C1409, C1414	CKSQYF225Z16
	C1414, C1415, C1557, C1558, C1559	CKSQYF225Z16
	C1559, C1560, C1561, C1562, C756	CKSQYF225Z16
	C1305, C1306, C751, C791	CKSRYB102K50
	C1105, C1106, C1114, C1119, C1123	CKSRYB103K50
	C1131, C1132, C1141, C1143, C1143	CKSRYB103K50
	C1145, C1202, C1207, C1209, C1214	CKSRYB103K50
	C1214, C1217, C1219, C1220, C1221	CKSRYB103K50
	C1223, C1226, C1228, C1231	CKSRYB103K50
	C1234, C1240, C1282, C1284, C1289	CKSRYB103K50
	C1349, C1402, C1404, C1441, C1711	CKSRYB103K50
	C1712, C1719, C1720, C1727, C1731	CKSRYB103K50
	C1751, C1752, C711	CKSRYB103K50
	C738, C743, C744, C745, C746	CKSRYB103K50
	C792, C794, C796	CKSRYB103K50
	C1116, C1121, C1146, C1283, C1288	CKSRYB104K16
	C1291, C736	CKSRYB104K16
	C1125, C1330, C1426	CKSRYB104K25
	C1432, C1440, C1440	CKSRYB104K25
	C1540, CC1545, C1709, C1710, C1721	CKSRYB104K25
	C1722, C1726	CKSRYB104K25
	C754	CKSRYB104K25
	C1427, C1433	CKSRYB153K50
	C1303, C1304, C1315, C1316	CKSRYB222K50
	C1792	CKSRYB223K50
	C1425, C1431	CKSRYB224K16
	C1328, C1328	CKSRYB333K16
	C1707, C1708, C1715, C1716, C1725	CKSRYB333K25
	C1852	CKSRYB333K25
	C1420, C1804	CKSRYB472K50
	C1422, C1430, C1605, C1606, C1801	CKSRYB473K50
	C1805, C1806	CKSRYB473K50
	C1701, C1702, C1713	CKSRYB562K50
	C1713, C1714, C1723	CKSRYB562K50
	C1791, C1851	CKSRYB683K16
	C1332	CKSRYB821K50
	C1428, C1434CKSRYB822K50	
	C1581, C1582	CKSRYF224Z25
	RESISTORS	
⚠	R1601	RD1/4MUF4R7J
	R1112	RS1/16S1802F
⚠	R1445, R1452	RS1LMF101J
	Other Resistors	RS1/16S###J
	OTHERS	
	CN1601 FJ CONNECTOR 14P	14R-FJ
	CN1501 1.25FJ CONNECTOR	19R-1.25FJ
	CN804 7P FFC CONNECTOR	52045-0745
	CN803 13P FFC CONNECTOR	52045-1345
	CN1702 31P FFC CONNECTOR	52045-3145
	1601 HEAT SINK	ANH7160
	1602 HEAT SINK	ANH-575
	CN1602 3P PLUG	B3B-EH
	CN702 11P PLUG	KM200TA11
	CN801 5P PLUG	KM200TA5
	CN701 7P PLUG	KM200TA7
	CN802 9P PLUG	KM200TA9
	KN801 EARTH METAL FITTING	VNF1084
	X1201 CRYSTAL RESO.(27MHz)	VSS1086
	X1101 CERAMIC RESO.(15.7MHz)	VSS1140

G FRONT ASSY

SEMICONDUCTORS

Mark No.	Description	Part No.
	IC4681	BU1923F
	IC4202	NJU3712M
	IC4201	PDG269A
	Q4681	2SA1037K
	Q4683	2SC3326
	Q4201	DTA124EK
	Q4202, Q4205, Q4682	DTC143EK
	D4213, D4214, D4215	1SS355
	D4203, D4204	DAN217
	D4201, D4202	DAP202K
	D4208, D4209	SLR-343MC(NPQ)
	D4205, D4206, D4210	SLR-343VC(NPQ)
	D4207, D4211	SLR-343YC(MNP)

COILS AND FILTERS

	L4201, L4681	LFEA2R2J

SWITCHES AND RELAYS

	S4201, S4202, S4203	ASG7025
	S4204, S4205	ASG7025

CAPACITORS

	C4216 (0.22/5.5)	ACH7144
	C4202, C4203, C4239, C4240	CCSRCH101J50
	C4689, C4690	CCSRCH270J50
	C4208	CEAL470M16
	C4684	CEAT1R0M50
	C4214	CEAT221M6R3
	C4683	CEJQ101M10
	C4686	CEJQ2R2M50
	C4230, C4231	CKSQYF225Z16
	C4201, C4210, C4226, C4228, C4229	CKSRYB102K50
	C4251, C4274, C4681, C4682	CKSRYB102K50
	C4209, C4213, C4215, C4222, C4241	CKSRYB103K50
	C4205, C4206, C4207, C4211, C4220	CKSRYB104K25
	C4224, C4242	CKSRYB104K25
	C4685	CKSRYB472K50
	C4217, C4218, C4232	CKSRYB473K50
	C4233, C4234, C4235, C4236	CKSRYB473K50
	C4236, C4237, C4238	CKSRYB473K50
	C4688	CKSRYB561K50

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	4204,4205 3P CABLE HOLDER	51048-0300
	CN4201 27P FFC CONNECTOR	52044-2745
	CN4203 7P FFC CONNECTOR	52045-0745
	CN4202 31P FFC CONNECTOR	52045-3145
	V4301 FL TUBE	AAV7088
	X4681 CERAMIC RESO.(4.3MHz)	ASS7004
	X4201 CERAMIC RESO.(7.2MHz)	ASS7039
	J4205 3P JUMPER WIRE	D20PYY0310E
	J4204 3P JUMPER WIRE UNIT	D20PYY0315E
	4201 REMOTE RECEIVER UNIT	SPS-442-E1
	4301 FL HOLDER	VNF1122

K SW ASSY

SWITCHES AND RELAYS

	S4501	VSG1009

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	4501 3P CABLE HOLDER	51048-0300

I ENCODER ASSY

SWITCHES AND RELAYS

	S4401	ASX7041

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	4401 3P CABLE HOLDER	51048-0300

H FRONT INPUT ASSY

CAPACITORS

	C4103, C4104	CCSRCH101J50
	C4107, C4111	CCSRCH471J50
	C4108	CEAL470M25
	C4120	CKSQYF105Z16
	C4105, C4109, C4117	CKSRYB103K50
	C4102, C4106, C4110	CKSRYB104K25
	C4112, C4113	CKSRYB223K50

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	CN4101 13P FFC CONNECTOR	52045-1345
	JA4101 3P PIN JACK	AKB7098
	JA4102 OPTICAL RECEIVE MOD.	GP1FA502RZ
	JA4103 H.P. JACK	RKN1006
	KN4101 EARTH METAL FITTING	VNF1084

Notice) Even if it removes TUNER, other functions operate.

■ AM Tuner Section

- There is no adjustment in the AM tuner.

■ FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

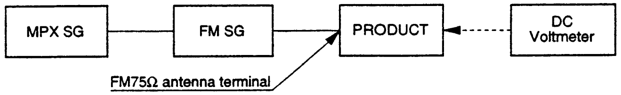


Fig.1 Adjustment Wiring Diagram

U FM/AM TUNER MODULE

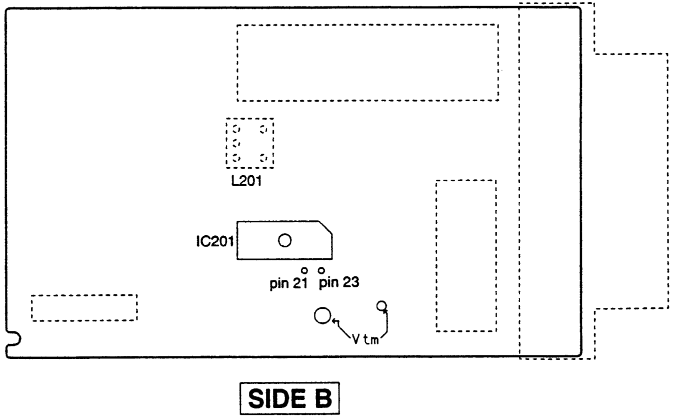


Fig.2 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 Test Mode

• How to Enter the Test Mode

With the attached Remote Control Unit

1. Call the preset code of test mode with the remote control unit

- Preset code setting: Enter [FRONT] + [ENTER] keys
  Remote control unit LED lights.
- Input a preset code ID: Enter [1], [5] and [0] keys.
  Remote control unit LED goes out.

2. Test mode ON "◀◀" key

- "TEST" is displayed for 5 seconds when Test mode is entered.
- Function: TV/SAT
- Speaker setting: All Large, SW ON
- No automatic speaker detection.
- PROLOGIC2 EMU mode
- Perform the tuner preset for Test mode.

Other settings will be returned to the factory-preset values.

3. Test mode OFF "▶" key

Clear the test mode when receives a remote control code, and become initial state.

4. FL & LED light-emission check "|◀◀" key

Each time the remote-control code is received, the displays of the FL and LED change cyclically as follows:
Normal display → All lights for the FL and LED on → All lights for the FL and LED off → FL: "ABCDEFGH" displayed; and LED: Every other letter of the alphabets is displayed → FL: "IJKLMNOP" displayed; and LED: Every other letter of the alphabets is displayed highlighted → Normal display → ...

5. Rear-and-center relay switch "II" key

Each time the remote control code is received, the rear-and center relay is toggled on or off.

6. DOLBY Pro Logic mode "■" key

- Distance setting for the front and center speakers: 3 m
- Distance setting for the rear speaker: 1.5 m
- PROLOGIC2 EMU mode
- Speaker setting: All Large, SW ON

All settings other than the above will be returned to the factory-preset values.

7. FAN ON/OFF switch "▶▶|" key

The fan is turned on or off and rotates as follows:
FAN ON LO SPEED → FAN ON HI SPEED → FAN OFF → ...

8. Master volume switch "1" key

The master volume is switched as follows and each time is 0dB.
Minus infinity → 0 dB → ...
When the remote control code is received for the first time, the master volume is set to minus infinity.

9. 9k/10k switch "2" key

For the models HL, SB and SP only, when the $A55F+$A505 code is received, this switches between 9k and 10k.

10. Thermistor check "3" key

When the remote control code is received, start the thermistor check.
When the remote control code is received after 90 seconds, display the result of thermistor check.

- At check OK, "THRM OK" flashes for five seconds.
- At check NG, "THRM NG" flashes for five seconds.
- During check, "CHECKING" flashes for five seconds.

11. Speaker auto-detection check "(CH) ENTER" key

When the remote control code is received, automatic detection of the speaker starts, and the result will be displayed for 5 seconds, as "C_S_W_", where O, indicates connected, and × indicates that no speaker is connected.

12. Analog inputs check "4" key

When the remote control code is received, forced analog inputs and 2-channel stereo mode are set for all functions.

- Speaker setting: All high volume, SW ON
- When this mode is entered, "SIG:ANA" will be displayed for 5 seconds.

13. SRAM check & dts check "▶▶" key

- Function: TV
- VOL value: 0 dB
- Distance setting for the front: 3 m
- Other distance settings: 2.1 m
- PROLOGIC2 EMU mode
- Speaker setting: All Large, SW ON

All settings other than the above will be returned to the factory-preset values.

14. Audio mute check "5" key

When the remote control code is received, switch the ON/OFF of AMUTE pin (pin 53) cyclically.
VOL value: 0 dB

15. DSP mute check "6" key

When the remote control code is received, switch the ON/OFF of DSPMUTE pin (pin 61) cyclically.
VOL value: 0 dB

16. Digital input forced mode Check of DIR ERR "●" key

When the remote control code is received, turn the function to the forced digital input mode.

- Speaker setting: All high volume, SW ON
- When this mode is entered, "SIG:DIG" will be displayed for 5 seconds.
- VOL value: 0 dB

17. Input ATT check "7" key

- Fuction: VCR
- When the remote control code is received, switch the ON/OFF of INPUT ATT cyclically.

7.1.2 Protection of the Amplifier Line

18. SW BOOST pin check "8" key

When the remote control code is received, switch the ON/OFF cyclically.
VOL value: 0 dB

19. FM+ pin check "9" key

When the remote control code is received, switch the ON/OFF cyclically.

20. PREGAIN pin check "0" key

When the remote control code is received, switch the ON/OFF cyclically.
VOL value: 0 dB

21. MVRATT pin check "(CH) +" key

Each time the remote-control code is received, switch H and L cyclically.
VOL value: 0 dB

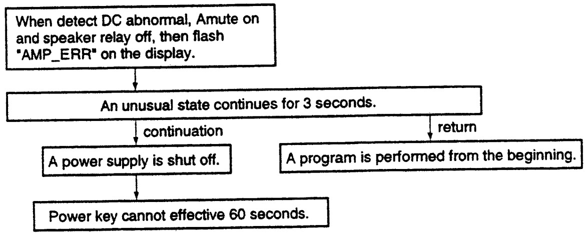
22. NJU7311 switching check "(CH) -" key

Each time the remote-control code is received, switch the function cyclically as follows:
OFF → NATURAL → BRIGHT → OFF → ...

7.1.2

1. DC Abnormality Detection

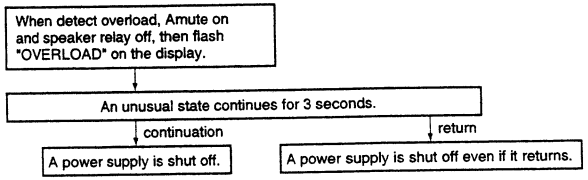
This detection has priority over the overload detection and abnormality detection for the fan and thermistor.


When detect DC abnormal, Amute on and speaker relay off, then flash "AMP_ERR" on the display.
An unusual state continues for 3 seconds.
continuation
return
A power supply is shut off.
A program is performed from the beginning.
Power key cannot effective 60 seconds.

If AC plug is pulled off within 60 sec, then AC plug in again, receiver will reset for

2. Overload Detection

This detection has priority over the abnormality detection of the fan and thermistor.


When detect overload, Amute on and speaker relay off, then flash "OVERLOAD" on the display.
An unusual state continues for 3 seconds.
continuation
return
A power supply is shut off.
A power supply is shut off even if it returns.

While the unit is recovering from the abnormality, the "OVERLOAD" display continues flashing.

3. Specifications of DSP Overload Detection

1. Detect overload detection signal of DSP in the port and light a "OVER" segment if detected for 30 seconds.
   Light it for 1 second if lighted once.

2. Do not detect in the following case.
   - During power OFF
   - During initialization
   - During mute
   - During Test tone
   - When analog direct path is selected
     → SOUND mode is OFF in the STEREO mode. Front speaker is large and SW except PLUS, or during Headphones.

1. Temperature detection of the heat sink

The detection is performed every 1 second by taking in the voltage of the thermistor at A/D (PORT 31).

2. Perform the following operation by detection temperature

Note: Pin No. shows pin No. of IC4201 (PDG269A).

THRMO DCT (pin 31)	A/D Setting Voltage	FAN LOW (pin 51)	FAN HIGH (pin 52)	SP RELAY (pins 48-50)	AMUTE (pin 53)	Display
0 to 0.1V	< 5	L	L	L	L	"THDCT NG" flashes for 5 seconds.
0.1V to 2.4V	5 to 122(60°C)	L	L	H	H	
2.6V to 2.8V	(70°C)134 -	H	L	H	H	
2.8V to 3.4V	(75°C)145 -	L	H	H	H	
3.4V to 4.1V	(90°C)174 -	L	H	H	H	"HEAT UP" flashes for 5 seconds at 20-sec intervals.
4.0V -	(110°C)204 -	L	H	L	L	"OVERHEAT" flashes

- If you wish to switch FAN START from "H" to "L" and FAN MAX from "L" to "H," first set FAN START to "L," then after 100 µs, set FAN MAX to "H."
- While "OVERHEAT" is flashing, only the POWER key is functional.

3. FAN operation

- Once the fan starts rotating, it continues to rotate at the same speed until the temperature falls to 65°C.
- Once the fan starts rotating, it continues to rotate for at least 20 seconds even after the temperature falls to the above-mentioned level.

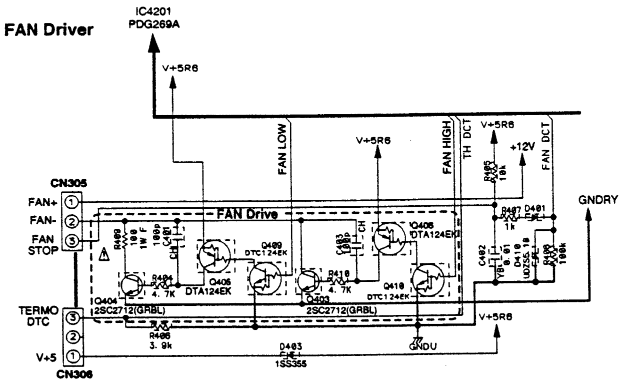
4. Detection of abnormalities in the fan

- If any abnormality is detected in the fan 5 seconds after it starts rotating at high speed, and if H (abnormal) is indicated for the FANDCT connector, "FAN STOP" is displayed for 5 seconds, then the power is turned off.
- While "FAN STOP" is displayed, AMUTE is on, and RELAY is off.
- While "FAN STOP" is displayed, only the POWER key is functional.
- While the fan is rotating at low speed, abnormality detection is not carried out.

5. Abnormality in the thermistor

If an abnormality (A/D voltage: 0.1 V or less) is detected in the thermistor, "THDCT NG" is displayed for 5 seconds, then the power is turned off.

FAN Driver



1. Purposes

Whether the speakers are connected or not is automatically detected, and settings appropriate for the detected speakers are made to allow you to easily play surround-sound without making cumbersome speaker settings.

2. Method of detecting speakers

Whether a center speaker, surround speaker and/or subwoofer is connected or not is detected 600 ms after the power is turned on.

< Detection of the center and surround speakers >

The microcomputer sends a detection signal and after 10 ms will read the logic of the responding signal to judge whether the speaker is connected or not. The response signal will be read at A/D. A voltage of 3.5 V or more is judged as no speaker connected.

The response signals at A/D are read every 2 ms, and if the same results (less or more than 3.5 V) are obtained, the detection result is considered correct. If a different result is obtained for the second detection, a third detection is carried out, and the two results that agree will outvote the other. If detection fails three times, then it is judged that no center speaker is connected.

< Detection of the subwoofer >

The logic of the signal from the phono jack with a switch is read by the microcomputer to judge whether the speaker is connected or not. The signals are read every 1 ms, and if the same results are obtained, the detection result is considered correct.

If a different result is obtained for the second detection, a third detection is carried out, and the two results that agree will outvote the other. If detection fails three times, then it is judged that no subwoofer is connected.

3. Speaker settings

According to the results of the detection, speaker settings are made as follows:

Results of the Detections			Speaker Setting			
Center SP	Surround SP	Sub-woofer	Front SP	Center SP	Surround SP	Sub-woofer
Connected	Connected	Connected	Small	Small	Small	Connected (200Hz)
Connected	Connected	Not connected	Large	Small	Small	Not connected
Connected	Not connected	Connected	Small	Small	Not connected	Connected (200Hz)
Connected	Not connected	Not connected	Large	Small	Not connected	Not connected
Not connected	Connected	Connected	Small	Not connected	Small	Connected (200Hz)
Not connected	Connected	Not connected	Large	Not connected	Small	Not connected
Not connected	Not connected	Connected	Small	Not connected	Not connected	Connected (200Hz)
Not connected	Not connected	Not connected	Large	Not connected	Not connected	Not connected

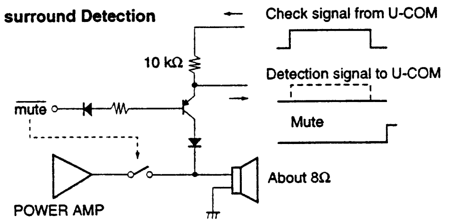
4. User's settings

In Setup mode, more detailed speaker settings are available. Once the user's settings are made, those settings have priority.

However, if the configuration of connected speakers has changed, then the detection results become valid and have priority over the user's settings until new user's settings are made.

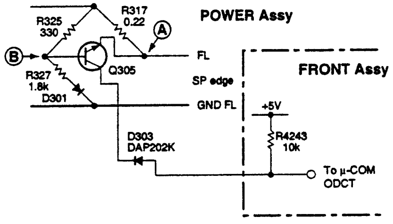
5. Detection circuit for the center and surround speakers

Center and surround Detection



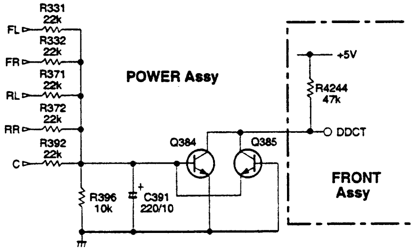
7.1.5 Circuit Description

1 Protection circuit when the edge of speaker is oveload


R325
330
R317
0.22
Ⓐ
POWER Assy
Ⓑ
Q305
FL
R327
1.8k
D301
SP edge
GND FL
FRONT Assy
+5V
D303
DAP202K
R4243
10k
To µ-COM
ODCT

A speaker (6Ω) is connected between FL and GNDFL normally. Q305 (306) (345) (346) (383) does not work because the voltage of Ⓐ point is higher than Ⓑ point.
If a resistance value between FL and GNDFL becomes less than 1.2Ω, Q305 (306) (345) (346) (383) turns ON.
And ODCT becomes with negative component of output level.
→ µ-COM detects it, and turn the power OFF.

2 DC detection circuit of SP terminal


R331
22k
FL
R332
22k
FR
R371
22k
RL
R372
22k
RR
R392
22k
C
POWER Assy
+5V
R4244
47k
DDCT
Q384
Q385
R396
10k
C391
220/10
FRONT
Assy

- Q384 and Q385 are turning OFF together normally.

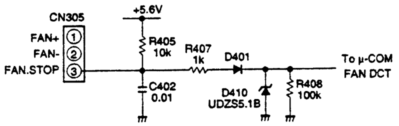
(1) When the DC voltage of the plus (+) side was generated on the SP edge

When the DC voltage of the plus (+) side was generated in L ch or R ch, Q384 turns ON and DDCT becomes Low level if VB of Q384 becomes higher than operating point.
→ µ-COM detects it, and turn the power OFF.

(2) When the DC voltage of the minus (-) side was generated on the SP edge

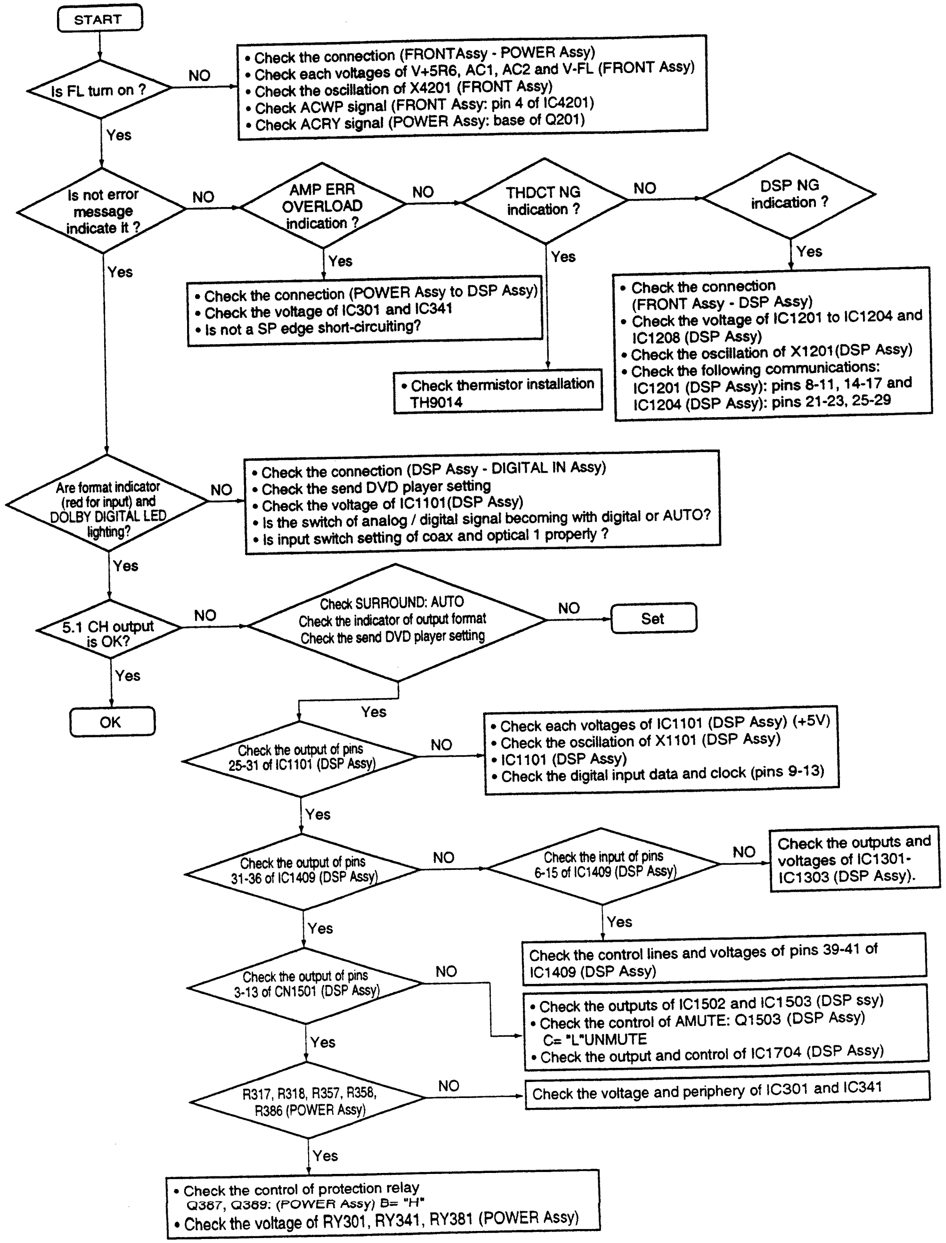
Q385 turns ON with + side in reverse, and DDCT works.

3 FAN detection circuit


+5.6V
CN305
FAN+
FAN-
FAN.STOP
①
②
③
R405
10k
R407
1k
D401
C402
0.01
D410
UDZS5.1B
R408
100k
To µ-COM
FAN DCT

When FAN is not connected between FAN+ and FAN-, or an alien substance is clogged up in the FAN at the FAN LOCK status, FAN STOP becomes the same electric potential as the FAN- (Low).
→ µ-COM detects it, and turn the power OFF.

7.1.6 Trouble Shooting


START
Is FL turn on ?
NO
• Check the connection (FRONTAssy - POWER Assy)
• Check each voltages of V+5R6, AC1, AC2 and V-FL (FRONT Assy)
• Check the oscillation of X4201 (FRONT Assy)
• Check ACWP signal (FRONT Assy: pin 4 of IC4201)
• Check ACRY signal (POWER Assy: base of Q201)
Yes
Is not error message indicate it ?
NO
AMP ERR OVERLOAD indication ?
NO
THDCT NG indication ?
NO
DSP NG indication ?
Yes
• Check the connection (POWER Assy to DSP Assy)
• Check the voltage of IC301 and IC341
• Is not a SP edge short-circuiting?
Yes
• Check thermistor installation TH9014
Yes
• Check the connection (FRONT Assy - DSP Assy)
• Check the voltage of IC1201 to IC1204 and IC1208 (DSP Assy)
• Check the oscillation of X1201(DSP Assy)
• Check the following communications: IC1201 (DSP Assy): pins 8-11, 14-17 and IC1204 (DSP Assy): pins 21-23, 25-29
Yes
Are format indicator (red for input) and DOLBY DIGITAL LED lighting?
NO
• Check the connection (DSP Assy - DIGITAL IN Assy)
• Check the send DVD player setting
• Check the voltage of IC1101(DSP Assy)
• Is the switch of analog / digital signal becoming with digital or AUTO?
• Is input switch setting of coax and optical 1 properly ?
Yes
5.1 CH output is OK?
NO
Check SURROUND: AUTO
Check the indicator of output format
Check the send DVD player setting
NO
Set
Yes
OK
Yes
Check the output of pins 25-31 of IC1101 (DSP Assy)
NO
• Check each voltages of IC1101 (DSP Assy) (+5V)
• Check the oscillation of X1101 (DSP Assy)
• IC1101 (DSP Assy)
• Check the digital input data and clock (pins 9-13)
Yes
Check the output of pins 31-36 of IC1409 (DSP Assy)
NO
Check the input of pins 6-15 of IC1409 (DSP Assy)
NO
Check the outputs and voltages of IC1301-IC1303 (DSP Assy).
Yes
Check the control lines and voltages of pins 39-41 of IC1409 (DSP Assy)
Yes
Check the output of pins 3-13 of CN1501 (DSP Assy)
NO
• Check the outputs of IC1502 and IC1503 (DSP ssy)
• Check the control of AMUTE: Q1503 (DSP Assy) C= "L"UNMUTE
• Check the output and control of IC1704 (DSP Assy)
Yes
R317, R318, R357, R358, R386 (POWER Assy)
NO
Check the voltage and periphery of IC301 and IC341
Yes
• Check the control of protection relay Q387, Q389: (POWER Assy) B= "H"
• Check the voltage of RY301, RY341, RY381 (POWER Assy)

7.1.7 Error Code

FL display	Time (sec)	Probable cause	
OVERLOAD	Flashes for five seconds	Display in the overload detecting circuit operation. Turn the power OFF after detection. Refer to the "Circuit description".	Error message about abnormal condition
AMP ERR	Flashes for five seconds	Display in the DC detecting circuit operation. Turn the power OFF after detection. Power ON is impossible for less than 1 minute. ON is afterward possible. Refer to the "Circuit description". SP edge short circuits, etc.	
DSP NG	Flashes for five seconds	Communication line abnormality of CRYSTAL DSP (IC1201/DSP Assy) and P2ROM (IC1204/DSP Assy). Refer to the "Trouble shooting".	
OVERHEAT	Flashes	When detection temperature of thermistor (TH9014) grows than 110 degrees, flash and display it. → Be using a product in high temperature environment. Refer to the "Circuit description".	
HEAT UP	Flashes for five seconds every 20 seconds	When detection temperature of thermistor (TH9014) grows than 90 degrees, flash and display it. → Be using a product in high temperature environment. Refer to the "Circuit description".	
FAN STOP	Flashes for five seconds	Display in the FAN abnormality operation detection after the FAN rotate. → POWER OFF Refer to the "Circuit description". FAN is not connected to CN305 (POWER Assy). FAN parts defectiveness	
THDCT NG	Flashes for five seconds	Display in the thermistor abnormality. → POWER OFF Refer to the "Circuit description". Thermistor is not connected to CN306 (POWER Assy). Thermistor parts defectiveness.	
VIRTUAL	Flashes for five seconds	In the playback with the VIRTUAL mode, display it when it was pressed the operation button which does not accept in the VIRTUAL mode.	Error display about specification (refer to each page of an operating instructions)
96.STEREO	Flashes for five seconds	When the fs=96kHz signal is input, display it when the operation button which does not accept was pressed in fs=96kHz signal.	
PHONES.IN	Flashes for five seconds	When the headphone is used, display it when it was pressed the operation button which does not accept.	

7.1.8 Fan Cleaning

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

7.2 PARTS

7.2.1 IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

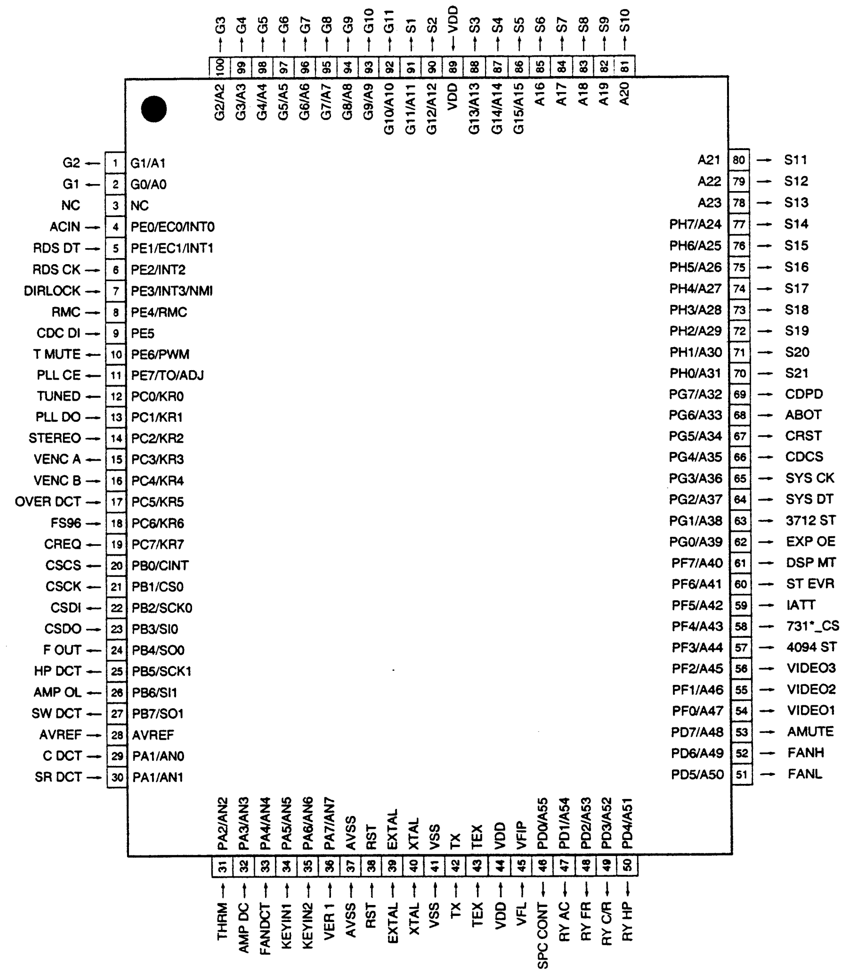
- **List of IC**

PDG269A, CS493292, BU4094BCF, NJU3712M, M62446

■ PDG269A (FRONT ASSY: IC4201)

- **Mode Control IC**

- **Pin Assignment (Top view)**



G3 ← 100 G2/A2
G4 ← 99 G3/A3
G5 ← 98 G4/A4
G6 ← 97 G5/A5
G7 ← 96 G6/A6
G8 ← 95 G7/A7
G9 ← 94 G8/A8
G10 ← 93 G9/A9
G11 ← 92 G10/A10
S1 ← 91 G11/A11
S2 ← 90 G12/A12
VDD → 89 VDD
S3 ← 88 G13/A13
S4 ← 87 G14/A14
S5 ← 86 G15/A15
S6 ← 85 A16
S7 ← 84 A17
S8 ← 83 A18
S9 ← 82 A19
S10 ← 81 A20
G2 ← 1 G1/A1
G1 ← 2 G0/A0
NC 3 NC
ACIN → 4 PE0/EC0/INT0
RDS DT → 5 PE1/EC1/INT1
RDS CK → 6 PE2/INT2
DIRLOCK → 7 PE3/INT3/NMI
RMC → 8 PE4/RMC
CDC DI → 9 PE5
T MUTE ← 10 PE6/PWM
PLL CE ← 11 PE7/TO/ADJ
TUNED ← 12 PC0/KR0
PLL DO ← 13 PC1/KR1
STEREO → 14 PC2/KR2
VENC A ← 15 PC3/KR3
VENC B → 16 PC4/KR4
OVER DCT → 17 PC5/KR5
FS96 → 18 PC6/KR6
CREQ ← 19 PC7/KR7
CSCS ← 20 PB0/CINT
CSCK ← 21 PB1/CS0
CSDI ← 22 PB2/SCK0
CSDO → 23 PB3/SI0
F OUT ← 24 PB4/SO0
HP DCT ← 25 PB5/SCK1
AMP OL ← 26 PB6/SI1
SW DCT ← 27 PB7/SO1
AVREF → 28 AVREF
C DCT → 29 PA1/AN0
SR DCT → 30 PA1/AN1
THRM → 31 PA2/AN2
AMP DC → 32 PA3/AN3
FANDCT → 33 PA4/AN4
KEYIN1 → 34 PA5/AN5
KEYIN2 → 35 PA6/AN6
VER 1 → 36 PA7/AN7
AVSS → 37 AVSS
RST → 38 RST
EXTAL → 39 EXTAL
XTAL → 40 XTAL
VSS → 41 VSS
TX → 42 TX
TEX → 43 TEX
VDD → 44 VDD
VFL → 45 VFIP
SPC CONT ← 46 PD0/A55
RY AC ← 47 PD1/A54
RY FR ← 48 PD2/A53
RY C/R ← 49 PD3/A52
RY HP ← 50 PD4/A51
A21 80 → S11
A22 79 → S12
A23 78 → S13
PH7/A24 77 → S14
PH6/A25 76 → S15
PH5/A26 75 → S16
PH4/A27 74 → S17
PH3/A28 73 → S18
PH2/A29 72 → S19
PH1/A30 71 → S20
PH0/A31 70 → S21
PG7/A32 69 → CDPD
PG6/A33 68 → ABOT
PG5/A34 67 → CRST
PG4/A35 66 → CDCS
PG3/A36 65 → SYS CK
PG2/A37 64 → SYS DT
PG1/A38 63 → 3712 ST
PG0/A39 62 → EXP OE
PF7/A40 61 → DSP MT
PF6/A41 60 → ST EVR
PF5/A42 59 → IATT
PF4/A43 58 → 731*_CS
PF3/A44 57 → 4094 ST
PF2/A45 56 → VIDEO3
PF1/A46 55 → VIDEO2
PF0/A47 54 → VIDEO1
PD7/A48 53 → AMUTE
PD6/A49 52 → FANH
PD5/A50 51 → FANL

● Pin Function

No.	Pin Name	I/O	Function	Active
1	G2	O	Grid output 2	H
2	G1		Grid output 1	H
3	NC	–	Connect to Vdd	
4	ACIN	I	AC pulse input	
5	RDS DT	I	Serial control data signal for RDS communication	
6	RDS CK	I	Serial control clock signal for RDS communication (Use for external interrupt)	
7	DLCK	I	ERR/OVER signal input from CODEC	
8	RMC	I	Remote control signal input (non carrier signal)	
9	CDC DI	I	DIR data input	
10	T MUTE	O	Tuner mute	H
11	PLL CE	O	Chip select signal for communicate with LC7213 (tuner)	
12	TUNED	I	TUNED information	
13	PLL DO	I	Data input signal for communicate with LC7213 (tuner)	
14	STEREO	I	Discrimination signal of Stereo/Mono signal	
15	VENC A	I	EVOL rotary encoder signal input A	
16	VENC B	I	EVOL rotary encoder signal input B	
17	OVER DCT	I	Overflow detection	
18	FS96	I	96k	
19	CREQ	I	REQ for crystal DSP	L
20	CSCS	O	CS for crystal DSP	L
21	CSCK	O	CLK for crystal DSP and CODEC	L
22	CSDI	I	DATAIN for crystal DSP	H
23	CSDO	O	DATAOUT for crystal DSP and CODEC	
24	F OUT	O	Output for furniture	H
25	HP DCT	I	HP detection	H
26	AMP OL	I	Overload detection of the protection circuit (L: Abnormal detection)	H
27	SW DCT	I	Subwoofer detection signal input	
28	AVref	–	Connect to Vdd	
29	CDCT	I	Center speaker detection signal input	
30	SRDCT	I	Surroundr speaker detection signal input	
31	THRM	I	Thermistor detection signal input	
32	AMP DC	I	DC abnormal detection of the protection circuit (L: Abnormal detection)	
33	FAN DCT	I	FAN abnormal detection signal input	
34	KEYIN1	I	A/D conversion port 1 of key input	
35	KEYIN2	I	A/D conversion port 2 of key input	L
36	VER 1	I	Destination switch 1 (A/D take-in)	L
37	AVSS	–	Connect to Vss	
38	RST	–	Reset	
39	EXTAL	–	Connect an oscillator 7.2MHz	
40	XTAL	–		
41	VSS	–	Connect to Vss	
42	TX	–	(Connect an oscillator 32kHz)	
43	TEX	–		
44	VDD	–	+5V	
45	VFDP	–	-30V	
46	SPCONT	O	Output for speaker detection	H
47	RY AC	O	AC relay ON/OFF	H
48	RY FR	O	Front speaker relay ON/OFF	H
49	RY C/R	O	Rear/center relay ON/OFF	H
50	RY HP	O	Headphone relay ON/OFF	H
51	FANL	O	FAN L rotation	H
52	FANH	O	FAN H rotation	H
53	AMUTE	O	Audio mute	H
54	VIDEO1	O	Video input function select	H
55	VIDEO2	O		H
56	VIDEO3	O		H
57	4094 ST	O	Strobe of expansion IC (for 4094)	H
58	731* CS	O	Chip select of NJU7311 - 7313	H
59	IATT	O	Input ATT switch	H
60	EVOL ST	O	Strobe signal for communication with the electronic volume	H
61	DSP MT	O	DSP mute (Assy mute)	H
62	EXP OE	O	OE of expansion IC	H
63	3712 ST	O	Strobe of expansion IC (for 3712)	H
64	SYS DT	O	Common bus data	H
65	SYS CK	O	Common bus clock	H
66	CODEC CS	O	Chip select for CODEC communication	H
67	CRST	O	Reset for crystal DSP	H
68	ABOT	O	ABDOT for crystal DSP	H
69	CODEC PD	O	Reset for CODEC communication	H
70	S21	O	Segment output 3 to 21	H
71	S20			H
72	S19			H
73	S18			H
74	S17			H
75	S16			H
76	S15			H
77	S14			H
78	S13			H
79	S12			H
80	S11			H
81	S10			H
82	S9			H
83	S8			H
84	S7			H
85	S6			H
86	S5			H
87	S4			H
88	S3			H
89	VDD	–	5V	
90	S2	O	Segment output 1 and 2	H
91	S1			H
92	G11	O	Grid output 3 to 10	H
93	G10			H
94	G9			H
95	G8			H
96	G7			H
97	G6			H
98	G5			H
99	G4			H
100	G3			H

■ CS493292 (DSP ASSY: IC1201)

• Mai DSP Microcomputor

● Pin Function

No.	Pin Name	I/O	Function
1	VD1	–	Digital power supply (+2.5V)
2	DGND1	–	Digital GND
3	AUDATA3	–	Not used
4	EMWR	O	External memory WR
5	EMOE	O	External memory OE
6	SCDIN	I	Microcomputer communication data input
7	SCCLK	I	Microcomputer communication clock input
8	EMAD7	I/O	External SRAM and P2ROM communication data
9	EMAD6		
10	EMAD5		
11	EMAD4		
12	VD2	–	Digital power supply (+2.5V)
13	DGND2	–	Digital GND
14	EMAD3	I/O	External SRAM and P2ROM communication data
15	EMAD2		
16	EMAD1		
17	EMAD0		
18	CS	I	Chip select of microcomputer communication
19	SCDOUT	O	Data output of microcomputer communication
20	INTREQ	O	Microcomputer communication request
21	EXTMEM	O	Output enable of external memory
22	SDATAN1	I	Audio data input
23	VD3	–	Digital power supply (+2.5V)
24	DGND3	–	Digital GND
25	SCLKN1	I	Bit clock input
26	LRCLKN1	I	LR clock input
27	SDATAN2	I	Audio data input
28	SCLKN2	I	Bit clock input
29	LRCLKN2	I	LR clock input
30	CLKIN	I	Master clock input (27MHz)
31	CLKSEL	I	Master clock control (L)
32	FILT2	I	PLL circuit connection pins
33	FILT1		
34	VA	–	Analog power supply (+2.5V)
35	AGND	–	Analog GND
36	RESET	I	Reset pin (L: Reset)
37	DD	–	Not used
38	DC	–	Not used
39	AUDATA2	O	Audio data output (LFE/C)
40	AUDATA1	O	Audio data output (SL/SR)
41	AUDATA0	O	Audio data output (FL/FR)
42	LRCLK	I	LR clock of audio output data
43	SCLK	I	Bit clock of audio output data
44	MCLK	I	Audio master clock (Not used)

■ BU4094BCF (DSP ASSY: IC1102)

• Expansion IC

● Pin Function

No.	Pin Name	I/O	Function
4	CA15	O	For crystal DSP
5	CA16	O	For crystal DSP
6	CA17	O	For crystal DSP
7	CA18	O	For crystal DSP
11	ADMD	O	To DSP mute circuit
12	Q7	O	N.C.
13	Q6	O	N.C.
14	Q5	O	N.C.

■ M62446 (DSP ASSY: IC1409)

• Out

● Pin Function

No.	Pin Name	Function
1	MVRATT	-15dB or less: L
2	GAINSEL	Pre-gain switch
3	SWBOOST	Subwoofer boost
4	N.C.	N.C.

■ NJU3712M (FRONT ASSY: IC4202)

• Expansion IC

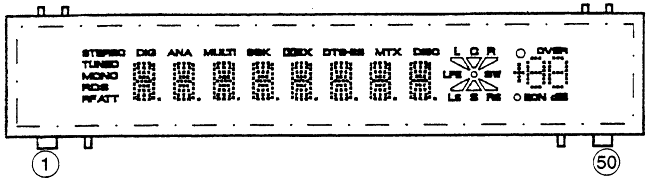
● Pin Function

No.	Pin Name	I/O	Function
1	LED1	O	LED display DOLBYDIGITAL
2	LED2	O	LED display DTS
3	LED3	O	LED display MPEG AAC/AUTO
5	LED4	O	LED display PHONES/VIRTUL
6	LED5	O	LED display PRO-LOGIC2
7	FM+	O	To RDS circuit
14	LED6	O	LED display ADVANCED
15	LED7	O	LED display SOUNDMODE

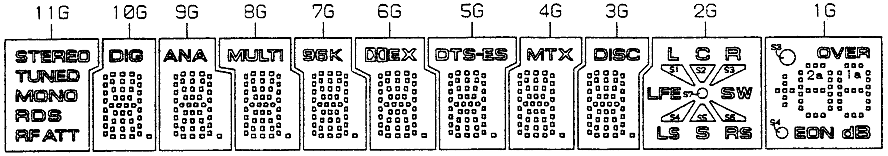
■ AAV7088 (FRONT ASSY : V4301)

• FL DISPLAY

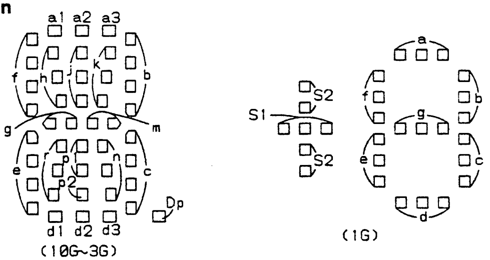
• Pin Assignment


STEREO
TUNED
MONO
RDS
RF ATT
DIG
ANA
MULTI
96K
DDEX
DTS-ES
MTX
DISC
L C R
LFE
SW
LS S RS
OVER
EON dB
①
㊿

• Grid Assignment


11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
STEREO
TUNED
MONO
RDS
RF ATT
DIG
ANA
MULTI
96K
DDEX
DTS-ES
MTX
DISC
L C R
S1 S2 S3
LFE S SW
S4 S5 S6
LS S RS
S3
OVER
2a 1a
S4
EON dB

• Segment Designation


a1 a2 a3
f
h
j
k
b
g
m
e
p
n
c
p2
Dp
d1 d2 d3
(10G~3G)
S1
S2
S2
a
f
b
g
e
c
d
(1G)

• Pin Connection

PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
CONNECTION	F1	NX	NP	NP	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	P6	P5	P4	P3	P2	P1	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NX	F2

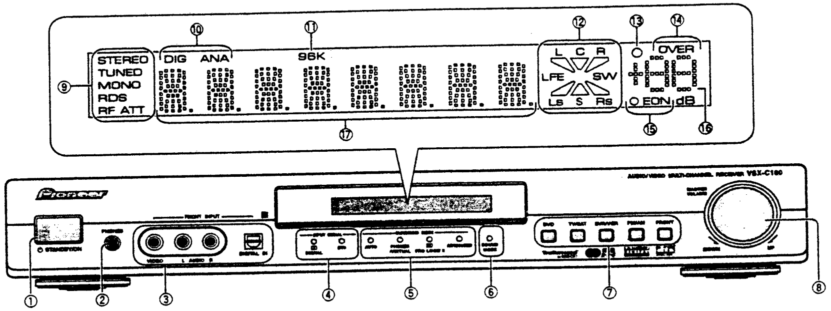
NOTE
1) F1,F2 --- Filament
2) NP ------- No pin
3) NX ------- No extend pin
4) DL ------- Datum Line
5) 1G~11G --- Grid
6) 半田組成はSn－3Ag－0．5Cuとする。

• Anode Connection

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	STEREO	a1	a1	a1	a1	a1	a1	a1	a1	L	OVER
P2	TUNED	a2	a2	a2	a2	a2	a2	a2	a2	S1	2a
P3	MONO	h	h	h	h	h	h	h	h	C	2b
P4	RDS	j	j	j	j	j	j	j	j	S2	2f
P5	RF	k	k	k	k	k	k	k	k	R	2g
P6	ATT	b	b	b	b	b	b	b	b	S3	2c
P7	-	f	f	f	f	f	f	f	f	LFE	2e
P8	-	m	m	m	m	m	m	m	m	S7	2d
P9	-	g	g	g	g	g	g	g	g	SW	1a
P10	-	c	c	c	c	c	c	c	c	S4	1b
P11	-	e	e	e	e	e	e	e	e	S5	1f
P12	-	r	r	r	r	r	r	r	r	S6	1g
P13	-	p1	p1	p1	p1	p1	p1	p1	p1	LS	1c
P14	-	n	n	n	n	n	n	n	n	S	1e
P15	-	d1	d1	d1	d1	d1	d1	d1	d1	RS	1d
P16	-	d2	d2	d2	d2	d2	d2	d2	d2	-	S1
P17	-	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	-	S4
P18	-	a3	a3	a3	a3	a3	a3	a3	a3	-	S3
P19	-	p2	p2	p2	p2	p2	p2	p2	p2	-	EON
P20	-	d3	d3	d3	d3	d3	d3	d3	d3	-	S2
P21	-	DIG	ANA	MULTI	96K	DDEX	DTS-ES	MTX	DISC	-	dB

8. PANEL FACILITIES

Front panel



① ⏻ STANDBY/ON (Main power) button
Pressing this button switches the receiver ON from STANDBY mode.
RECEIVER button on the remote control also toggles between ON and STANDBY mode.
The receiver uses a small amount of electricity (less than 1W) in STANDBY mode.

② PHONES jack
Use to connect headphones (this switches the speakers off).

③ FRONT INPUT
You can connect a portable DVD player, video camera, video game system, or whatever equipment you would like to have handy, to the FRONT INPUT .

④ INPUT SIGNAL indicators
Indicates the kind of input signal.
DD DIGITAL:
When a DD DIGITAL source is input this indicator will light.
DTS:
When a DTS source is input this indicator will light.

⑤ SURROUND MODE indicators
Indicates the SURROUND mode of input signal.
AUTO:
Lights when the AUTO mode is selected. This mode automatically selects which kind of signal is being input and plays back in the appropriate mode.
PHONES/VIRTUAL:
Lights when the VIRTUAL or PHONES SURROUND mode is selected. The VIRTUAL mode simulates surround sound for two speakers (when headphones are not plugged in, see).
The PHONES SURROUND mode simulates surround sound for headphones, when they are plugged in.
DD PRO LOGIC II:
Lights when the DD PRO LOGIC II mode is selected.
This mode automatically plays back in DD PRO LOGIC II .
ADVANCED:
Lights when an ADVANCED mode is selected.
These modes playback emphasizing certain characteristics of the sound .

⑥ SOUND MODE
Lights when you have chosen one of the sound modes to be applied to playback .

⑦ Input buttons
Use to select the playback source: the possibilities are DVD, TV/SAT, DVR/VCR, FM/AM and FRONT.

⑧ MASTER VOLUME
Use to set the overall listening volume.

DISPLAY

⑨ TUNER indicators
STEREO: Lights when a stereo FM broadcast is being received in auto stereo mode.
TUNED: Lights when a broadcast is being received.
MONO: Lights when the mono mode is set using mpx (on the remote control).
RDS: Lights when an RDS broadcast is received.
RF ATT: Lights when the RF ATT is on .

⑩ Digital (DIG) & Analog (ANA) indicators
Light according to the kind of signal, digital or analog, received.

⑪ 96kHz playback indicator
Lights when a 96 kHz source is being played.

⑫ Format indicator
Shows which speakers are currently in use based on the listening mode chosen, the source material and the type of decoding being used .

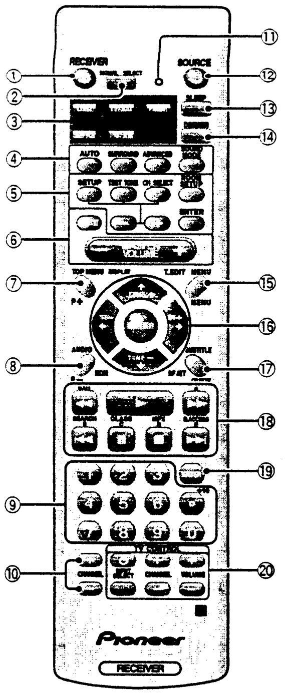
⑬ SLEEP indicator
Lights when the SLEEP function is set or active .

⑭ OVER indicator
Lights when the analog signal is too powerful, causing possible distortion .

⑮ EON indicators
EON lights when it has been set. The dot indicator next to it lights when the station you are currently tuned to carries the EON data service.

⑯ Volume level indicator

⑰ Character display
Shows the current input (DVD, TV/SAT, etc.), listening mode, radio frequency, etc.



① ⏻ RECEIVER (Power) button:
This switches between STANDBY mode and power ON for this receiver.

② SIGNAL SELECT button :
Press SIGNAL SELECT repeatedly to select one of the following:
ANALOG: To select an analog signal.
DIGITAL: To select a digital signal.
AUTO: This is the default. If there are analog and digital signals input, the receiver automatically selects digital. If only analog is input the receiver will select analog.

③ Input/Control Mode Select buttons:
Use to put the receiver/remote control in the input mode stated on the button. The FM/AM button puts the receiver in tuner mode if it was in another mode and switches between the FM and the AM band if the receiver was already in tuner mode.

④ Listening Mode buttons:

Auto button:
Use this button for direct decoding of the input signal with no added sound effects. The receiver will automatically detect what kind of signal (stereo, multichannel, etc.) is being input and play accordingly.

Surround button :
Use this button to choose one of the surround listening modes this receiver is equipped with.

Advanced button :
Use this button to choose one of the advanced listening modes this receiver is equipped with.

Sound mode button :
Use this button to choose one of the sound modes this receiver is equipped with.

⑤ System setup buttons:

SETUP button :
Use this button to start the receiver setup process which adjusts the settings to your particular system.

TEST TONE button :
Use to sound the TEST TONE when setting the volume level of each channel.

CH SELECT button :
Use to select a speaker when setting the volume level of each channel.

ROOM SETUP button :
Use to set the distance from your speakers to your normal listening position.

+/– buttons :
Use these buttons when making adjustments to the SETUP, TEST TONE, or CH.SELECT features.

ENTER button:
Use this button to enter Room Setup commands.
You can also use this button to exit a SETUP mode.

⑥ Volume buttons:

MASTER VOLUME +/– buttons:
Use to set the overall listening volume.

MUTE button :
Use to mute the sound or restore the sound if it has been muted.

⑦ TOP MENU button:
Use to return to the most basic menu on a DVD player or disc.
Also used for some tuner commands.

⑧ AUDIO button:
Use to switch the audio tracks of a DVD when in DVD mode or to access the EON function when in tuner mode.

⑨ Number buttons:
Use to enter track number on discs or radio frequencies.

⑩ CHANNEL +/– buttons:
Use to select channels on other components such as a DVR or satellite tuner.

⑪ LED indicator:
This indicator flashes when a command is sent from the remote control to the receiver. It also flashes at when teaching the receiver preset codes.

⑫ SOURCE (Power) button:
Use this button to turn on and off the power of other components.

⑬ SLEEP button :
Use to put the receiver in sleep mode and select the amount of time before the receiver turns off.

⑭ DIMMER button :
Press to change the display brightness. The dimmer button allows you to cycle through the four different brightness strengths for the display.

⑮ MENU button:
Use to return to the most basic menu on a DVD player or disc.
Also used for some tuner commands.

⑯ ⇦ ⇨ ⇧ ⇩ & ENTER buttons
Use these arrow buttons when adjusting the tuner or navigating TV or DVD menus. See these respective sections for more information.

⑰ SUBTITLE button:
Use to switch the subtitles on a DVD player or disc.
Also used to turn on RF ATT when in tuner mode.

⑱ Component/Tuner/Satellite Tuner/CATV control buttons:
The main function of these buttons (3, 7, etc.) is to control a component (CD, for example) after you have selected it using the Input/Control Mode Select buttons.
The tuner/satellite tuner controls above these buttons can be accessed after you have selected the corresponding Input/Control Mode Select buttons (TUNER or SAT, etc.).
In this case the buttons marked with letters (A, etc.) or EXIT will access preset channels or functions, depending on your particular satellite/cable TV system.

SEARCH button:
Use when searching for stations in RDS mode.

CLASS button :
Switches between the three banks (classes) of radio station presets.

MPX button :
Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality. Also acts as a stop button for CDs, tapes, or DVDs.

D. ACCESS button :
After pressing, you can access a radio station directly using the number buttons.

⑲ ENTER button :
It can be used to enter commands for TV, CATV and TUNER.

⑳ TV CONTROL buttons:
These controls are for your TV. They are dedicated TV controls and will work no matter what mode the remote control is in. They can, however, be set for different TVs.
By default they will control the TV. Thus if you only have one TV, assign it to the TV/SAT button .